Live Access Server (LAS) – A Portal for In Situ Data Quality Control, Exploration and Sharing

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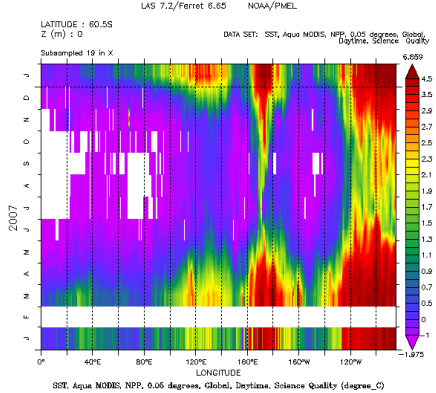
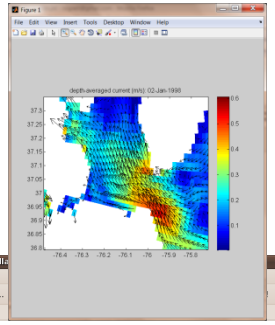
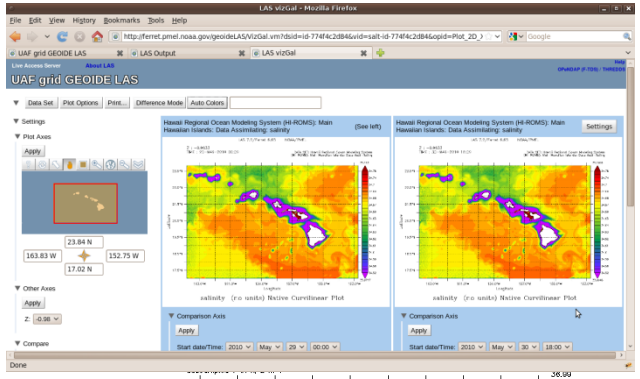
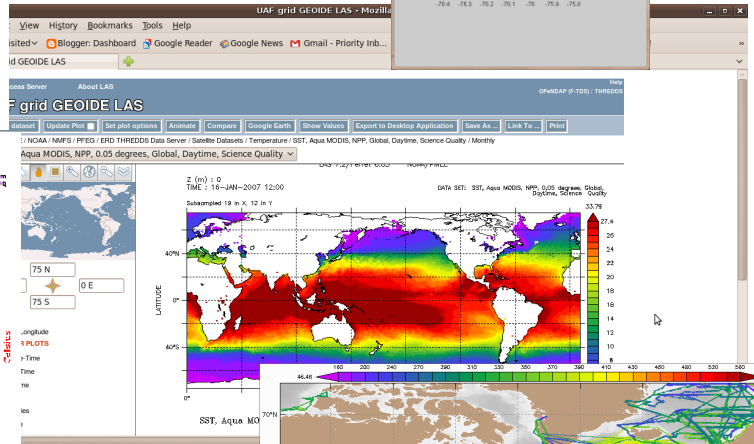
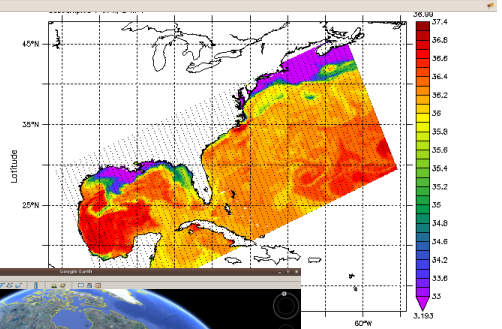
Robert Simons - NOAA/SWFC, Santa Cruz, WA, USA
Roy Mendelssohn - NOAA/SWFC, Santa Cruz, WA, USA
Benjamin Pfeil - Bjerknes Climate Data Centre, University of Bergen, Norway
Steve Jones - University of East Anglia, UK

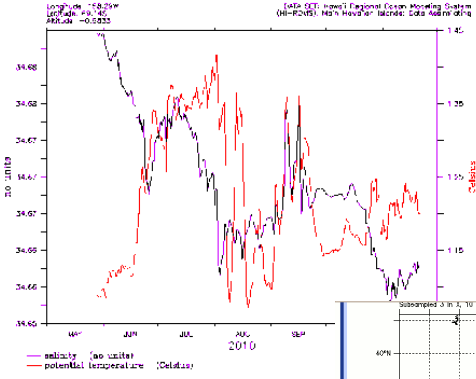

LAS 7.2/Ferret 6.65 NOAA/PMEL
LATITUDE : 60.5S
Z (m) : 0
DATA SET: SST, Aqua MODIS, NPP, 0.05 degrees, Global, Daytime, Science Quality
Subsampled 19 in X
2007
LONGITUDE
SST, Aqua MODIS, NPP, 0.05 degrees, Global, Daytime, Science Quality (degree_C)
LAS 7.2/Ferret 6.65 NOAA/PMEL

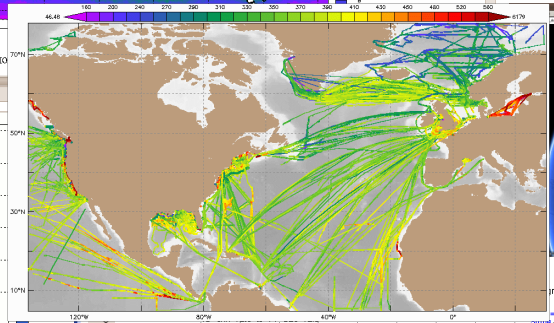


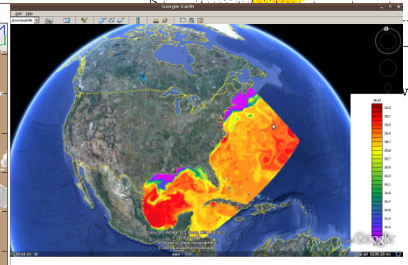

LAS vizGal - Mozilla Firefox
UAF grid GEOIDE LAS
Hawaii Regional Ocean Modeling System (HI-ROMS): Main Hawaiian Islands: Data Assimilating: salinity
salinity (no units) Native Curvilinear Plot

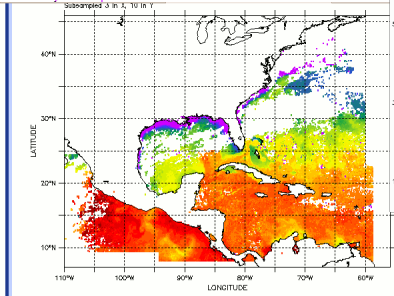

UAF grid GEOIDE LAS - Mozilla
F grid GEOIDE LAS
Aqua MODIS, NPP, 0.05 degrees, Global, Daytime, Science Quality
Z (m) : 0
TIME : 16-JAN-2007 12:00
DATA SET: SST, Aqua MODIS, NPP, 0.05 degrees, Global, Daytime, Science Quality
Subsampled 19 in X, 12 in Y
LATITUDE
SST, Aqua MO

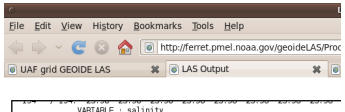

Latitude
60°W
vilinear Plot


2010
salinity (no units)
potential temperature (Celsius)

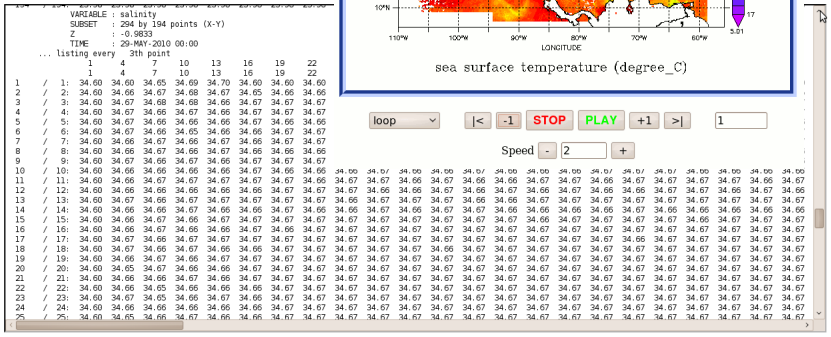




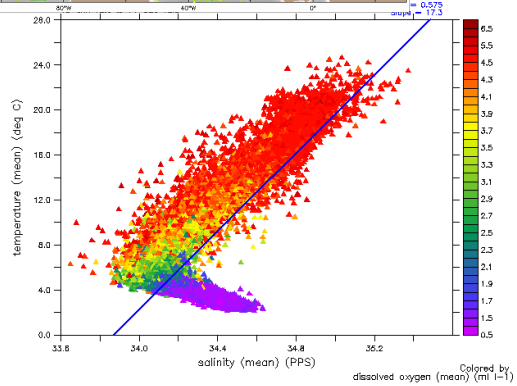

LATITUDE
LONGITUDE

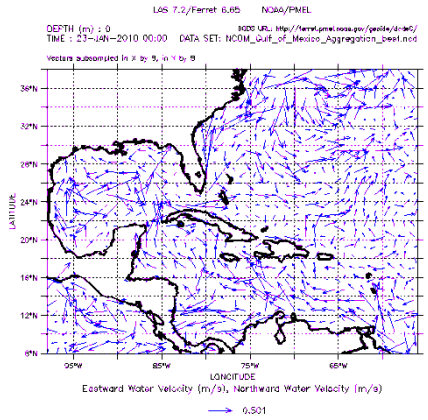

File Edit View History Bookmarks Tools Help
UAF grid GEOIDE LAS
LAS Output

sea surface temperature (degree_C)


VARIABLE : salinity
SUBSET : 294 by 194 points (X-Y)
Z : -0.9833
TIME : 29-MAY-2010 00:00
... listing every 3th point

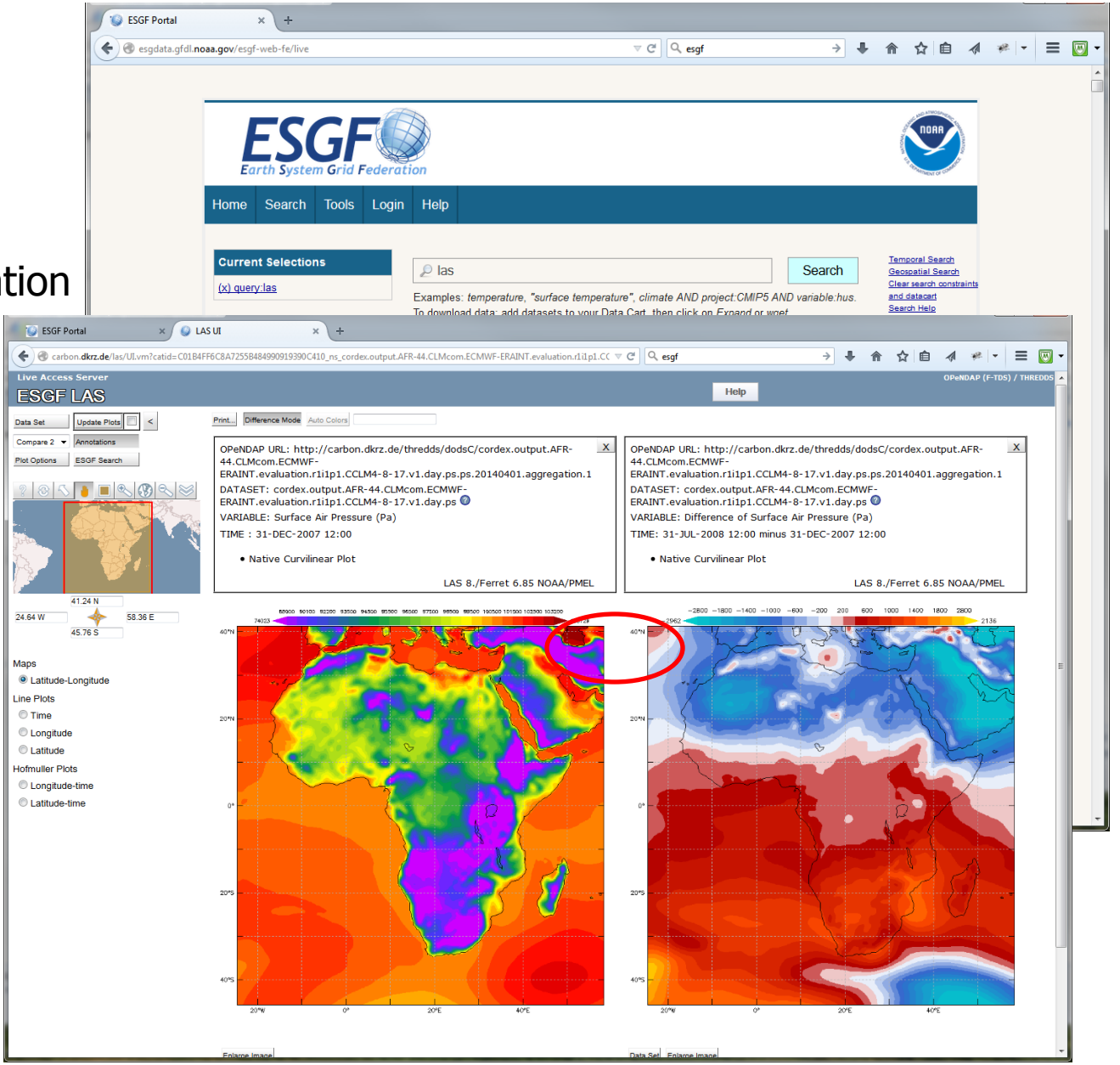
loop
STOP
PLAY
Speed


temperature (mean) (deg C)
salinity (mean) (PPS)
Colored by
dissolved oxygen (mean) (ml l-1)


LAS 7.2/Ferret 6.65 NOAA/PMEL
DEPTH (m) : 0
TIME : 23-JAN-2010 00:00
DATA SET: NCOM_Gulf_of_Mexico_Aggregation_best.ncd
Vectors subsampled in X by 5, in Y by 5
LONGITUDE
Eastward Water Velocity (m/s), Northward Water Velocity (m/s)
0.501

LAS introduction

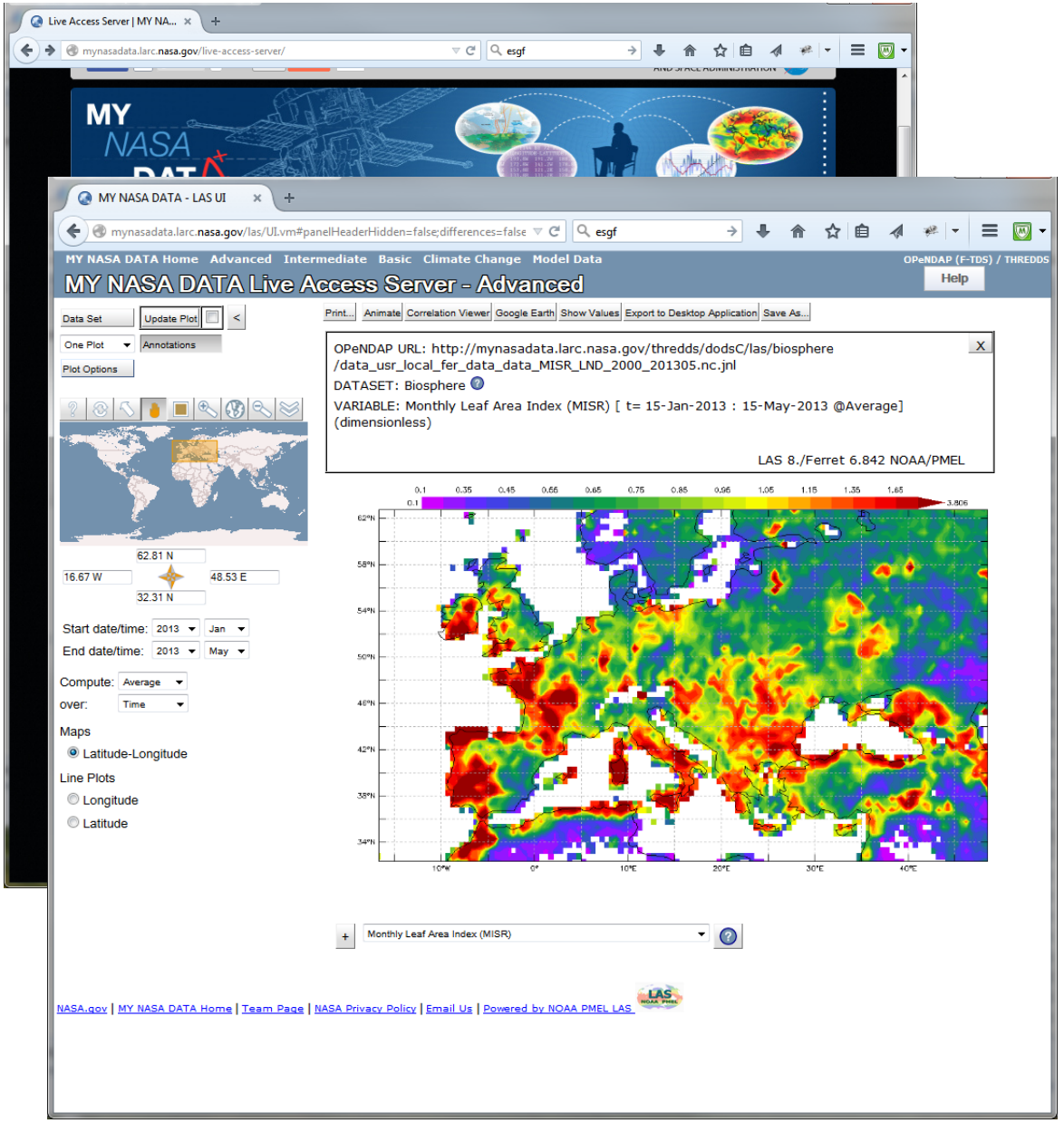
Earth System Grid Federation



LAS introduction

Earth System Grid Federation

My NASA Data



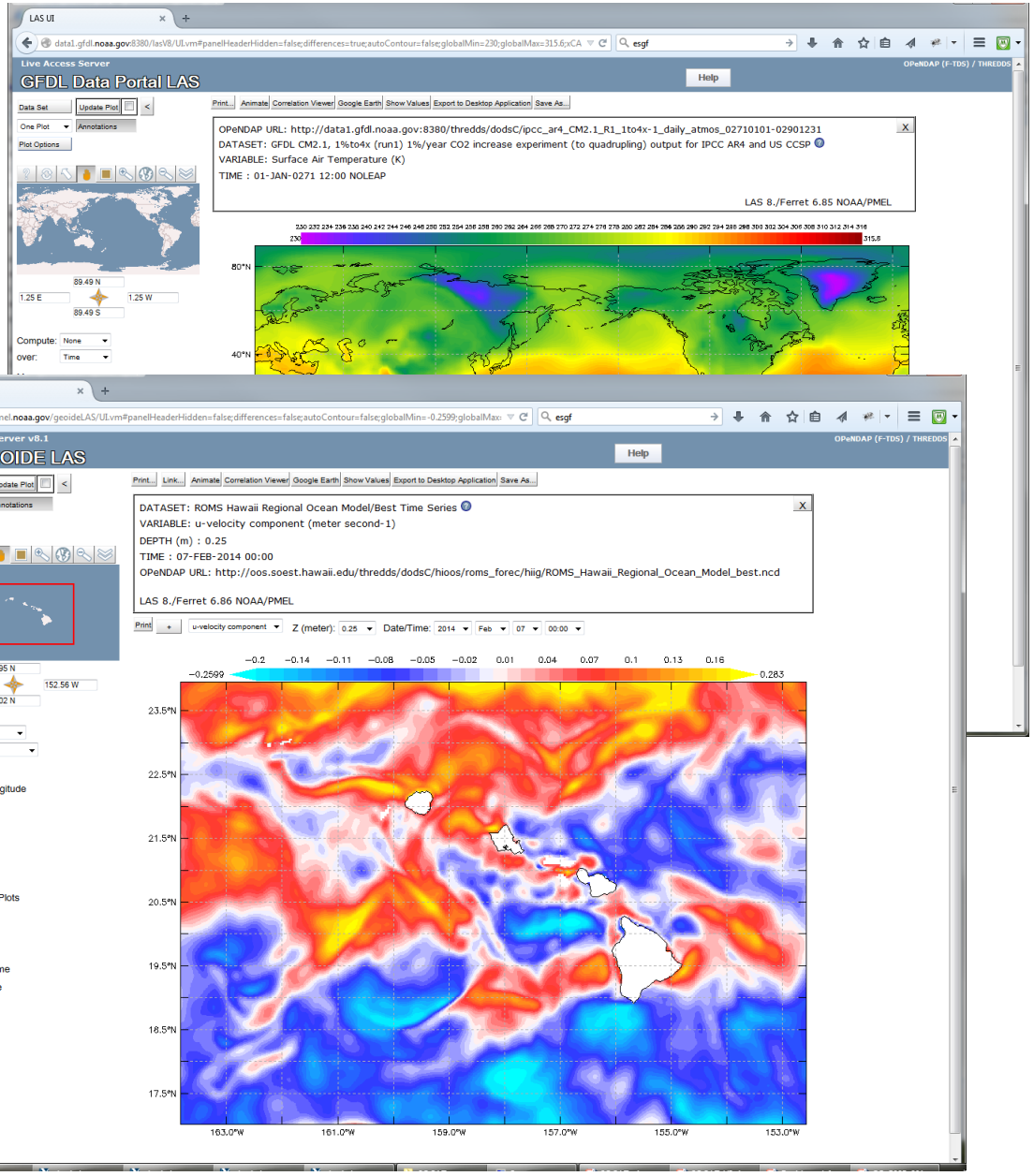
LAS introduction

Earth System Grid Federation

My NASA Data

GFDL Data portal

Unified Access Framework



What is SOCAT?

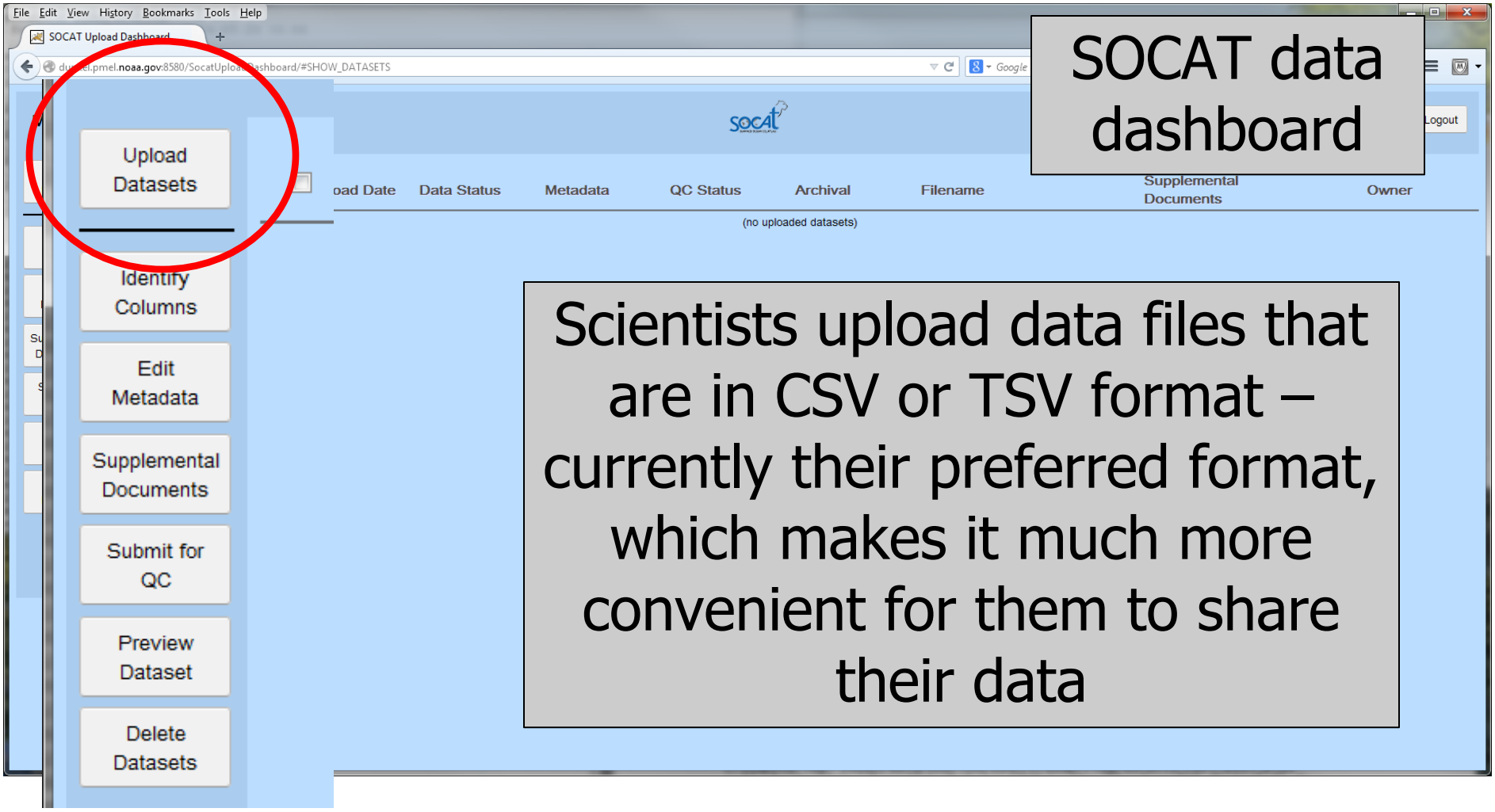
- Surface Ocean CO2 Atlas
- A high quality global surface CO2 dataset
- Brings together all publicly available fCO2 (fugacity of carbon dioxide)
- Data and metadata standards required to participate in SOCAT agreed upon by CO2 community
- Includes observations from ships, moorings and alternative platforms such as wave gliders

How does SOCAT work?

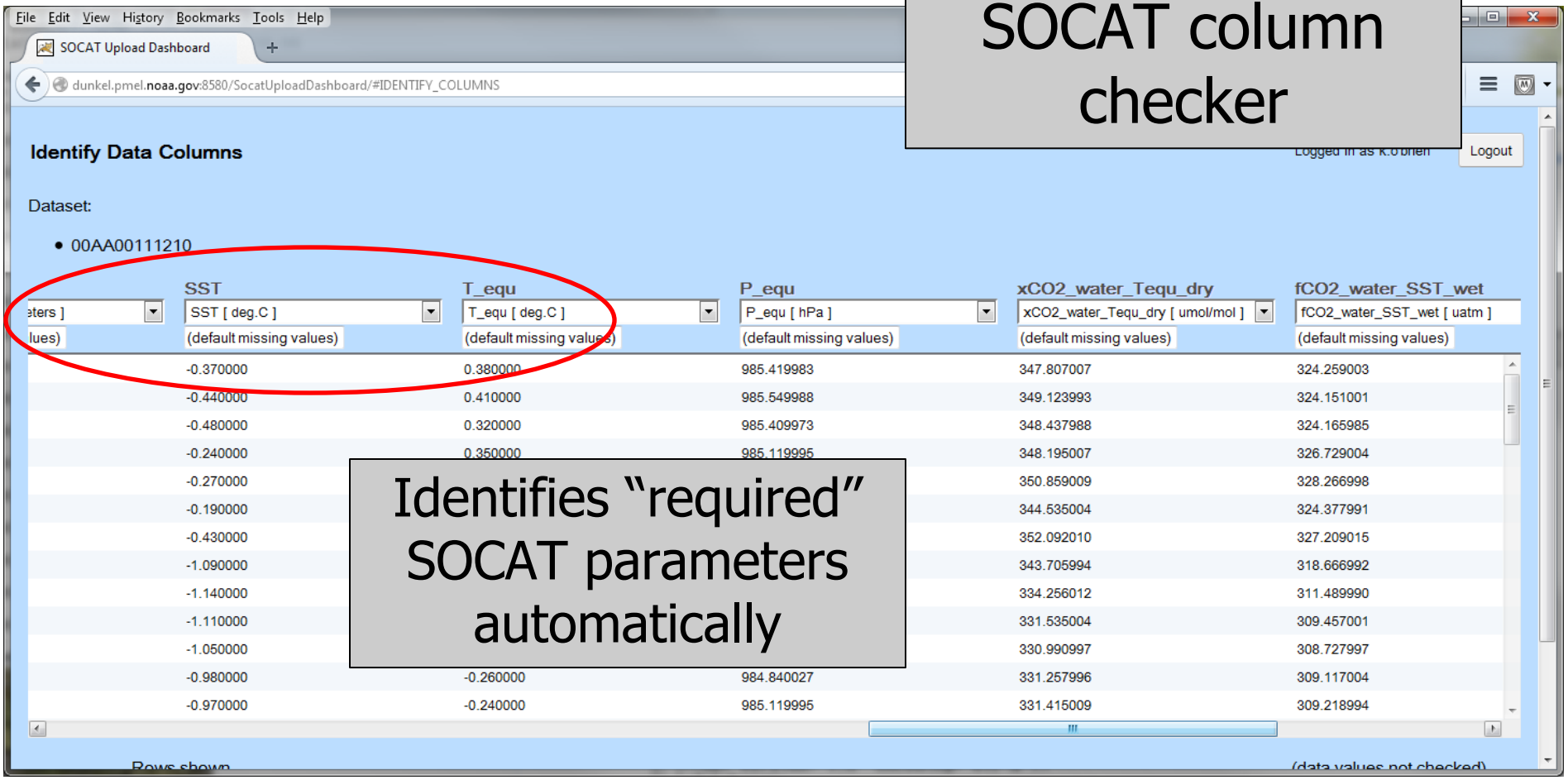
- Scientists collect observations through cruises, or moorings
- Data are submitted to SOCAT
- SOCAT data is ingested into data portal along with complete metadata
- Other scientists review observations and metadata and assign:
  - WOCE flags (2,3,4) for quality of fCO2 data values
  - A overall cruise flag (A-F, S,X) based upon specified metadata requirements
    - For example, to receive an "A" flag, a cruise must meet each of the following:
      (1) Accuracy of calculated fCO_2w (at SST) is better than 2 µatm.
      (2) A high-quality cross-over with another dataset is available.
      (3) Followed approved methods/SOP criteria.
      (4) Metadata documentation complete.
      (5) Dataset QC was deemed acceptable.

How does SOCAT work?

- Data is submitted to SOCAT



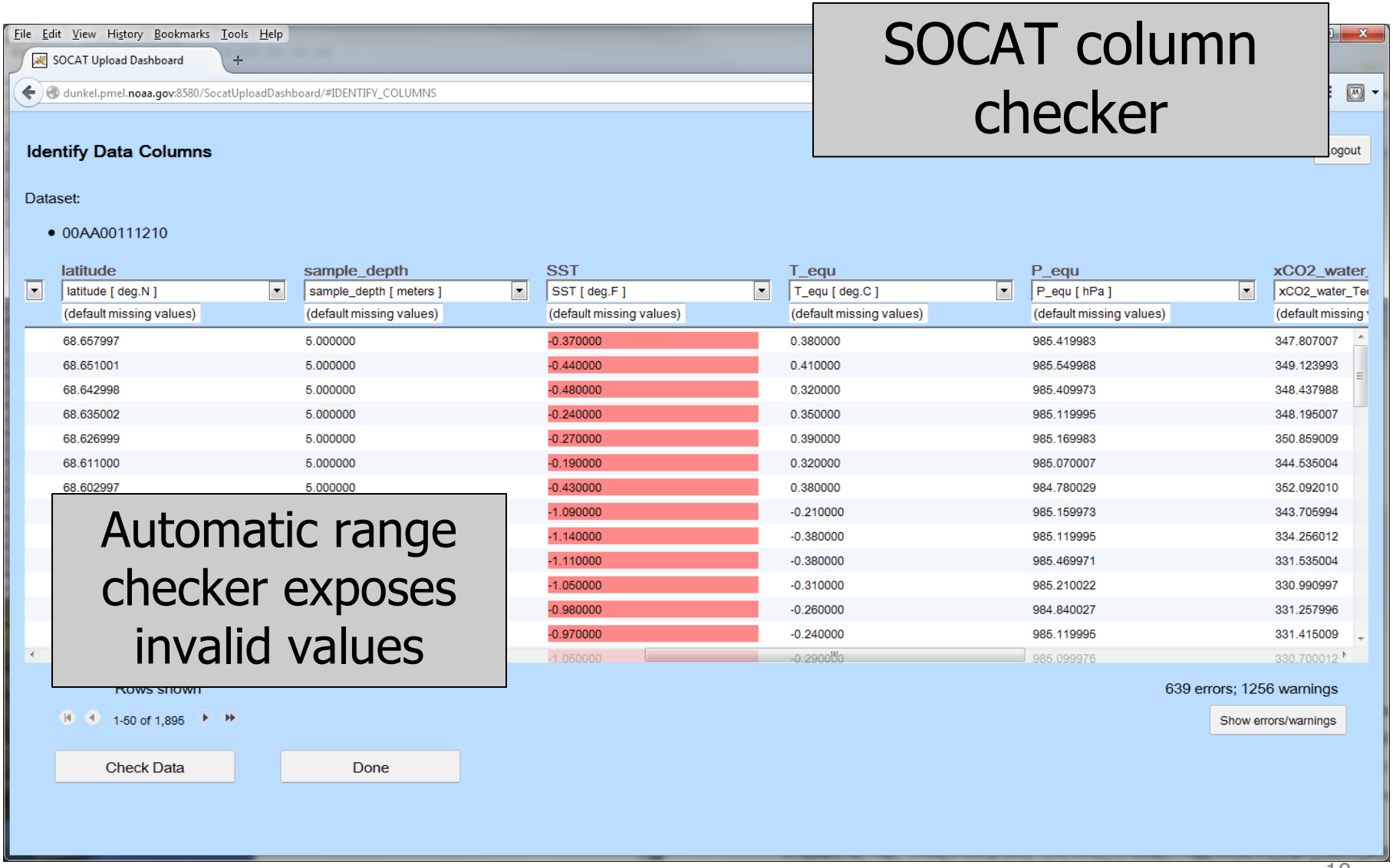
How does SOCAT work?



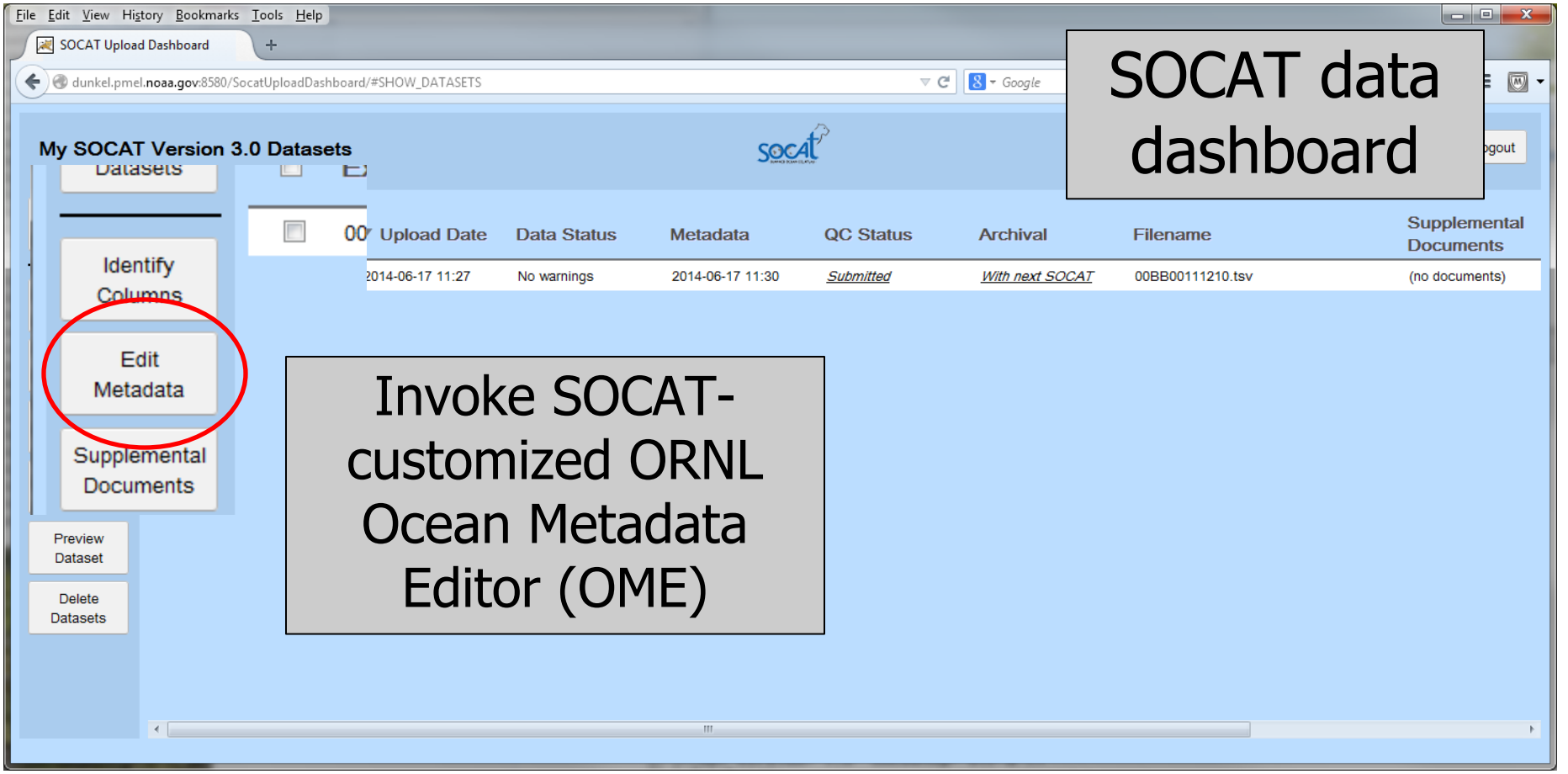
SOCAT column checker

Identifies "required" SOCAT parameters automatically

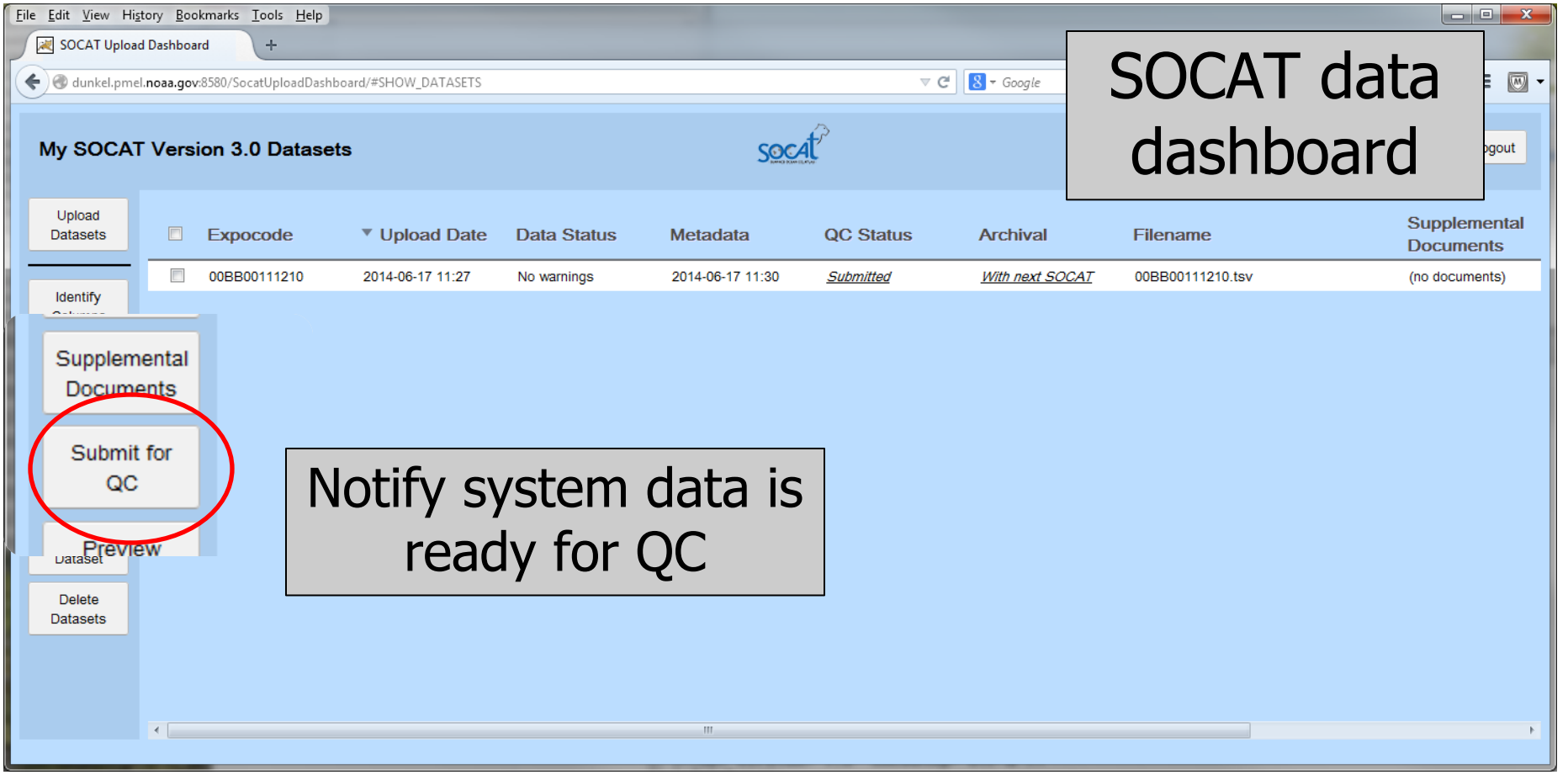
How does SOCAT work?



How does SOCAT work?



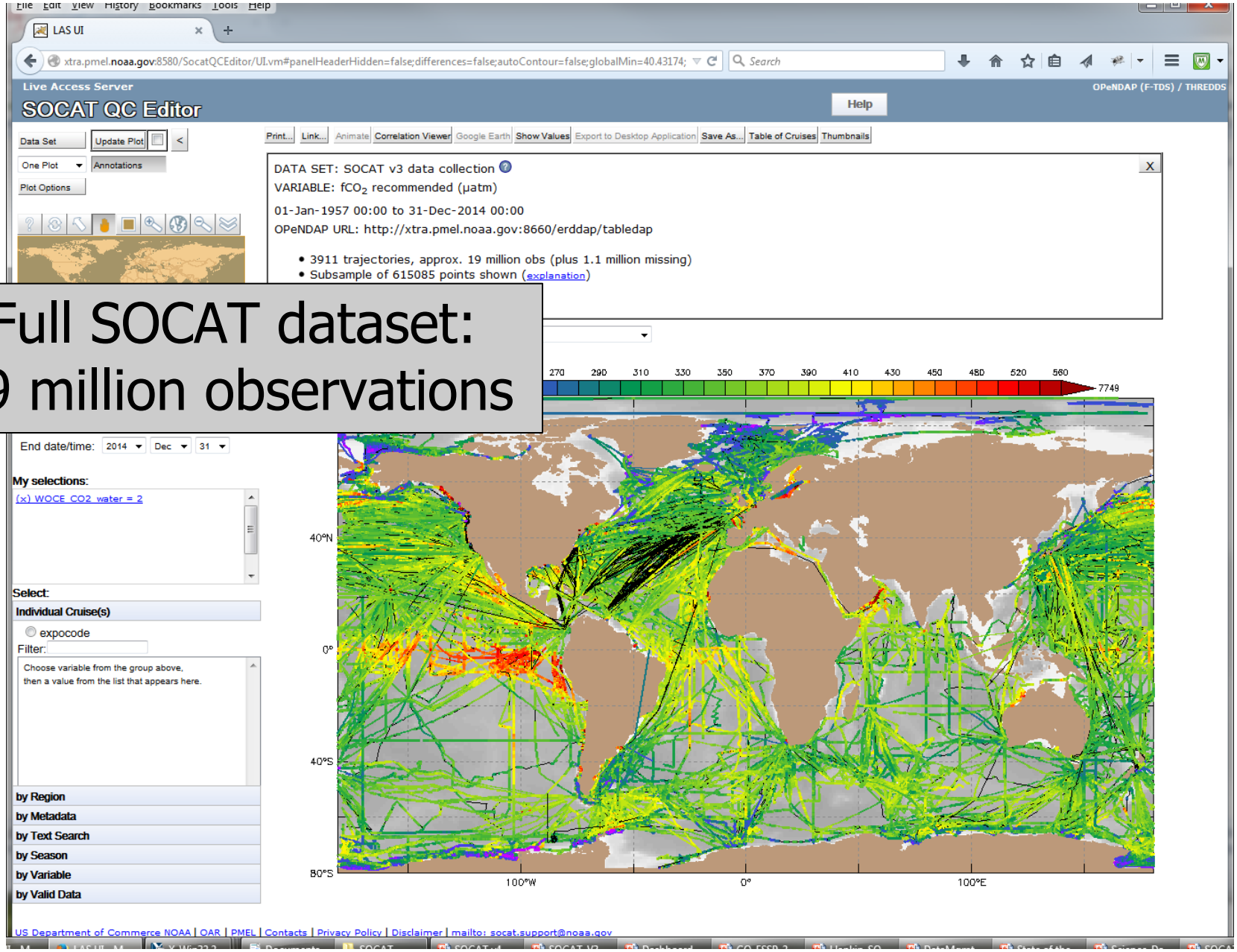
How does SOCAT work?



How does SOCAT work?

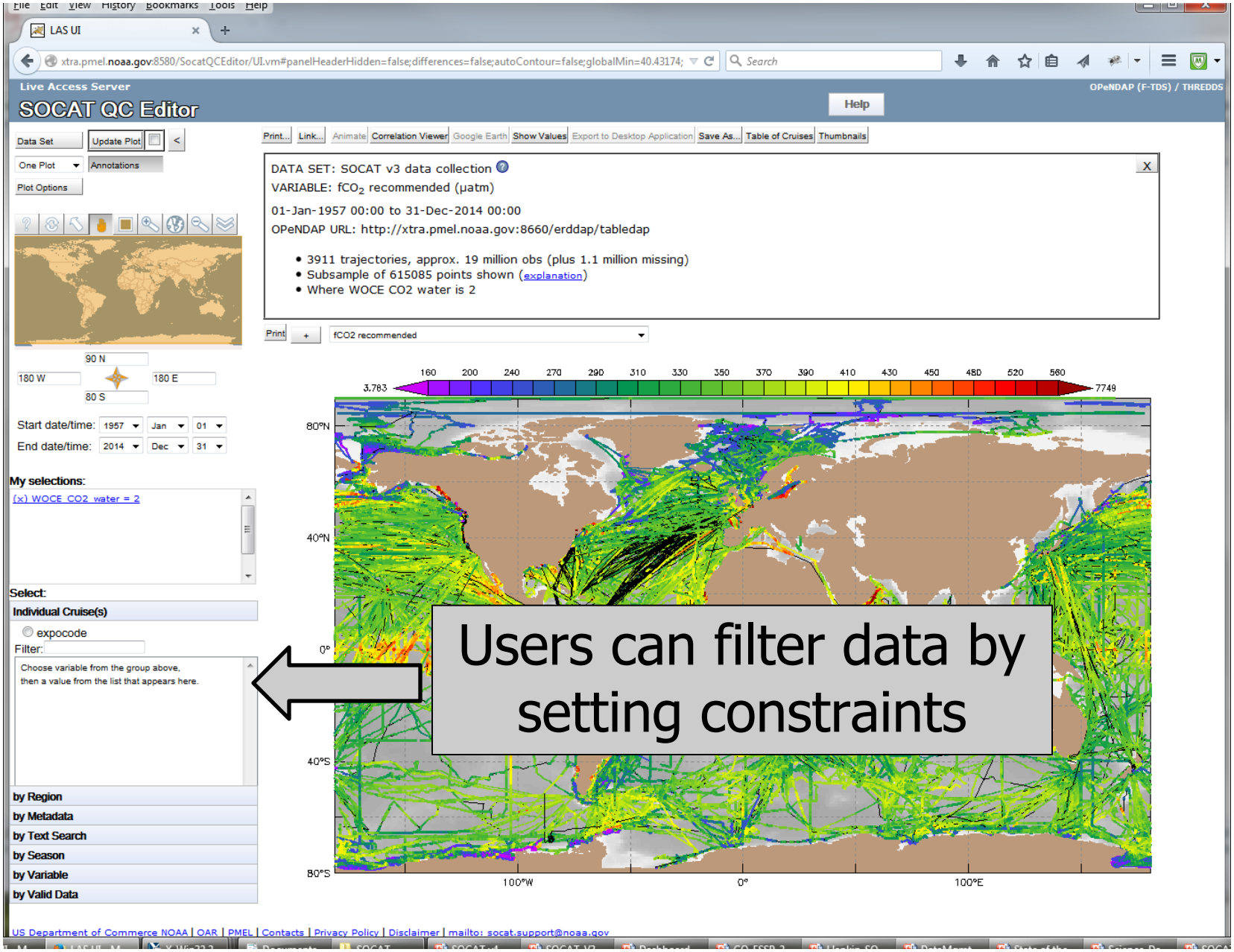
- After data is submitted for QC:
  - The CSV data files are regenerated as DSG trajectory files
  - These individual files are then ingested into a service broker called ERDDAP
  - ERDDAP then serves the data back out as a ***collection*** of DSG trajectories to LAS

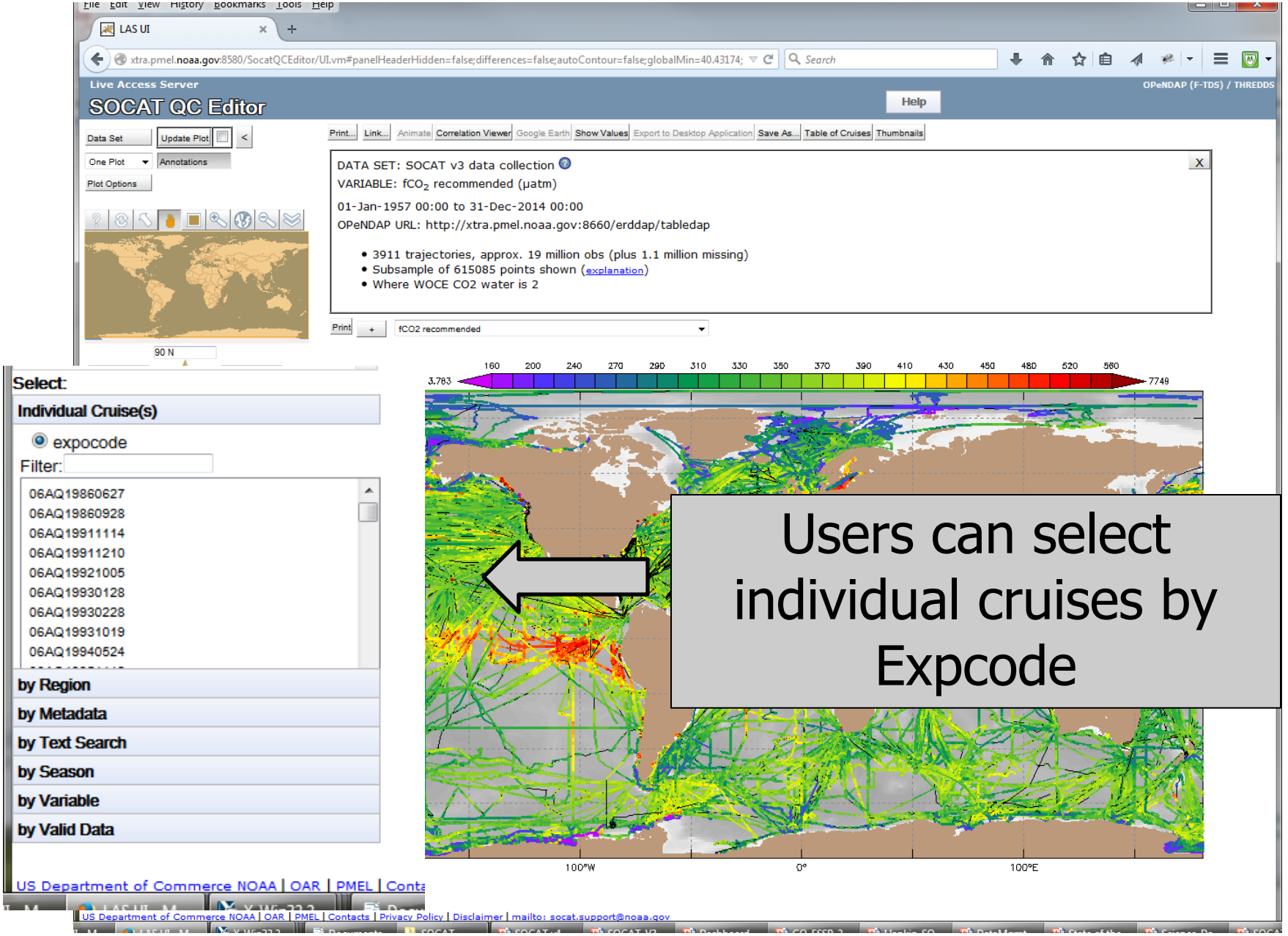
LAS and QC



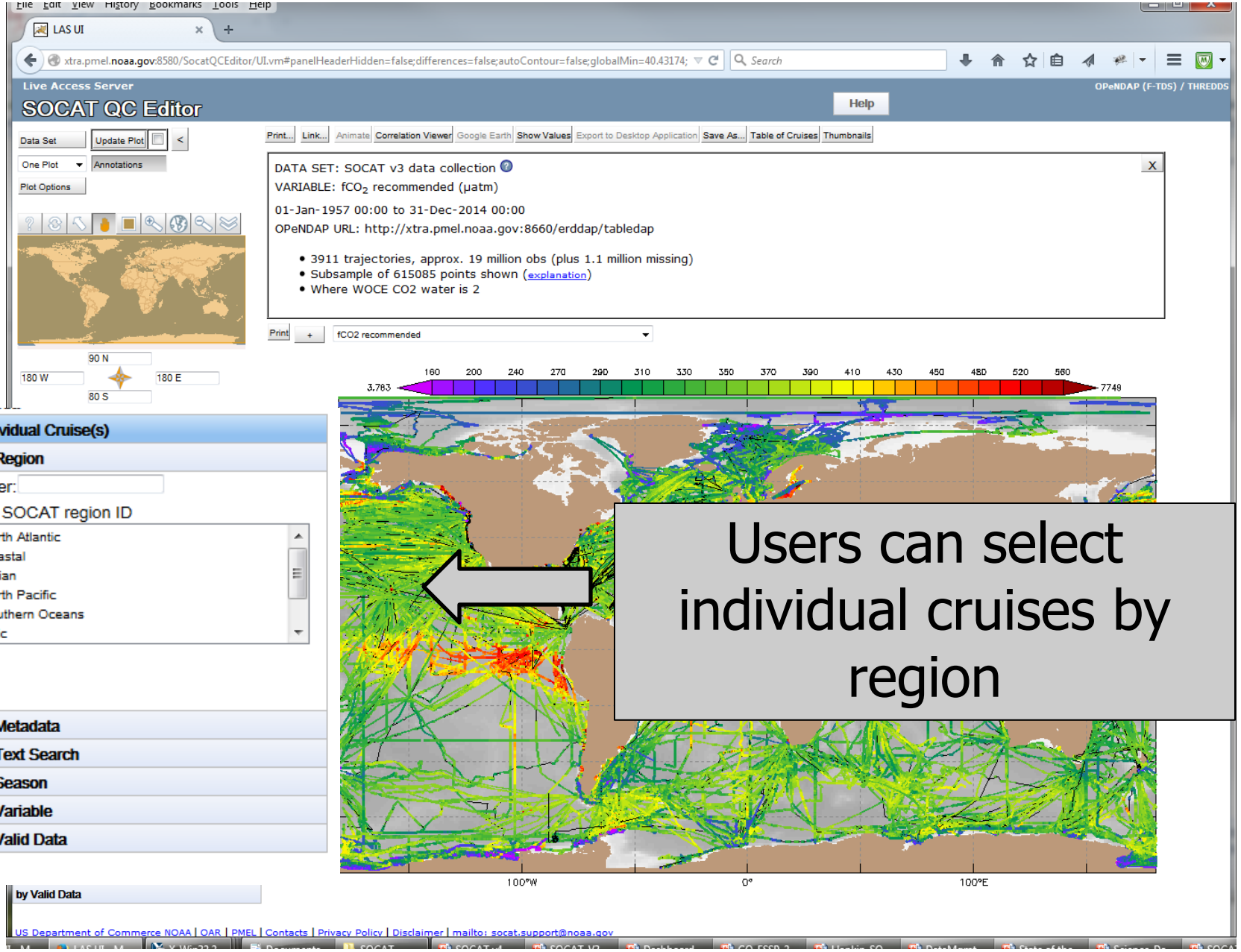
Full SOCAT dataset:
19 million observations

LAS and QC

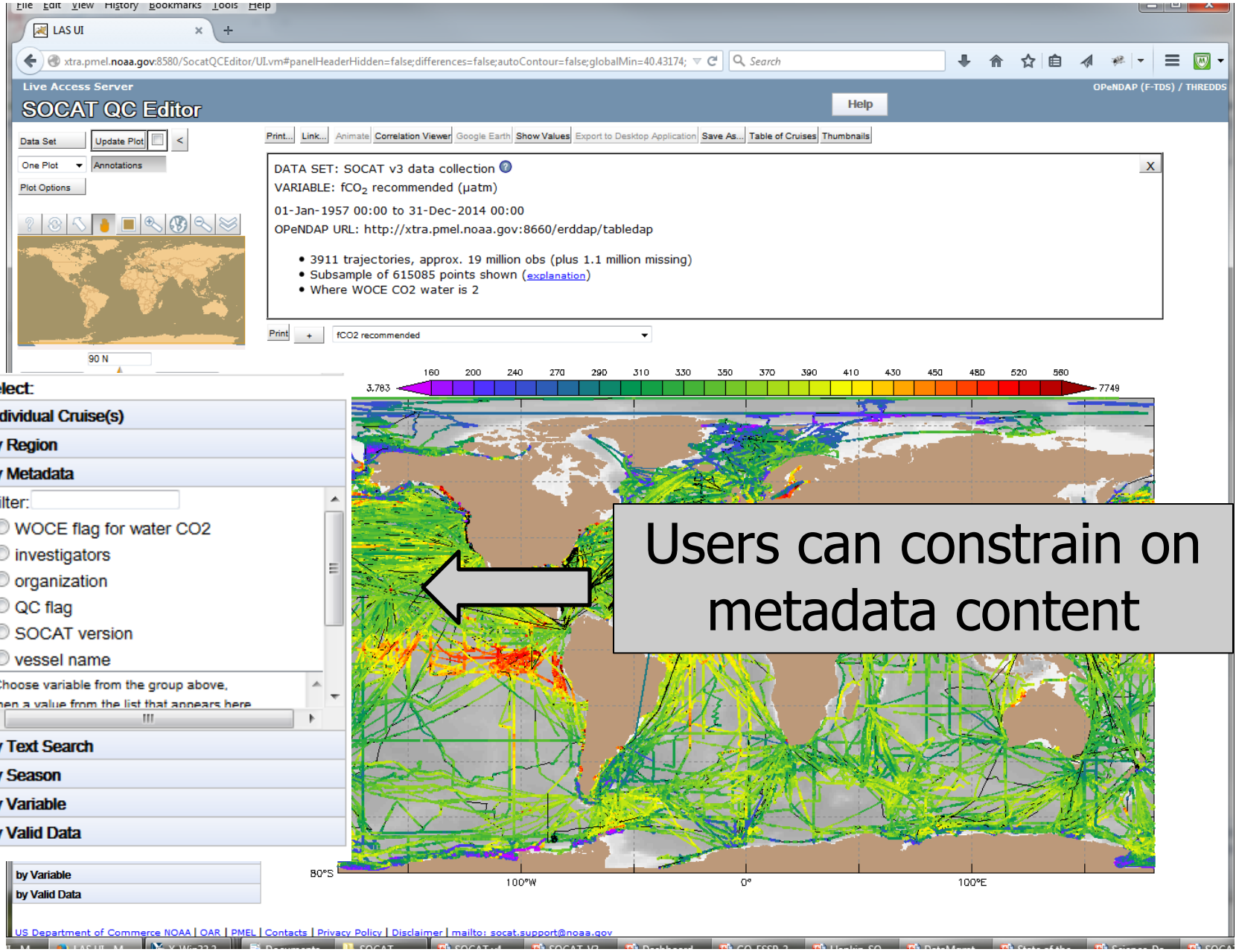

LAS UI
xtra.pmel.noaa.gov:8580/SocatQCEditor/UI.vm#panelHeaderHidden=false;differences=false;autoContour=false;globalMin=40.43174;
Live Access Server
SOCAT QC Editor
OPeNDAP (F-TDS) / THREDDS
Help
Data Set
Update Plot
One Plot
Annotations
Plot Options
Print...
Link...
Animate
Correlation Viewer
Google Earth
Show Values
Export to Desktop Application
Save As...
Table of Cruises
Thumbnails
DATA SET: SOCAT v3 data collection
VARIABLE: fCO2 recommended (µatm)
01-Jan-1957 00:00 to 31-Dec-2014 00:00
OPeNDAP URL: http://xtra.pmel.noaa.gov:8660/erddap/tabledap
• 3911 trajectories, approx. 19 million obs (plus 1.1 million missing)
• Subsample of 615085 points shown (explanation)
• Where WOCE CO2 water is 2
Print
fCO2 recommended
90 N
180 W
180 E
80 S
Start date/time: 1957 Jan 01
End date/time: 2014 Dec 31
My selections:
(x) WOCE CO2 water = 2
Select:
Individual Cruise(s)
expocode
Filter:
Choose variable from the group above, then a value from the list that appears here.
by Region
by Metadata
by Text Search
by Season
by Variable
by Valid Data
160 200 240 270 290 310 330 350 370 390 410 430 450 480 520 560
3.783
7749
80°N
40°N
0°
40°S
80°S
100°W
0°
100°E
Users can filter data by setting constraints
US Department of Commerce NOAA | OAR | PMEL | Contacts | Privacy Policy | Disclaimer | mailto: socat.support@noaa.gov

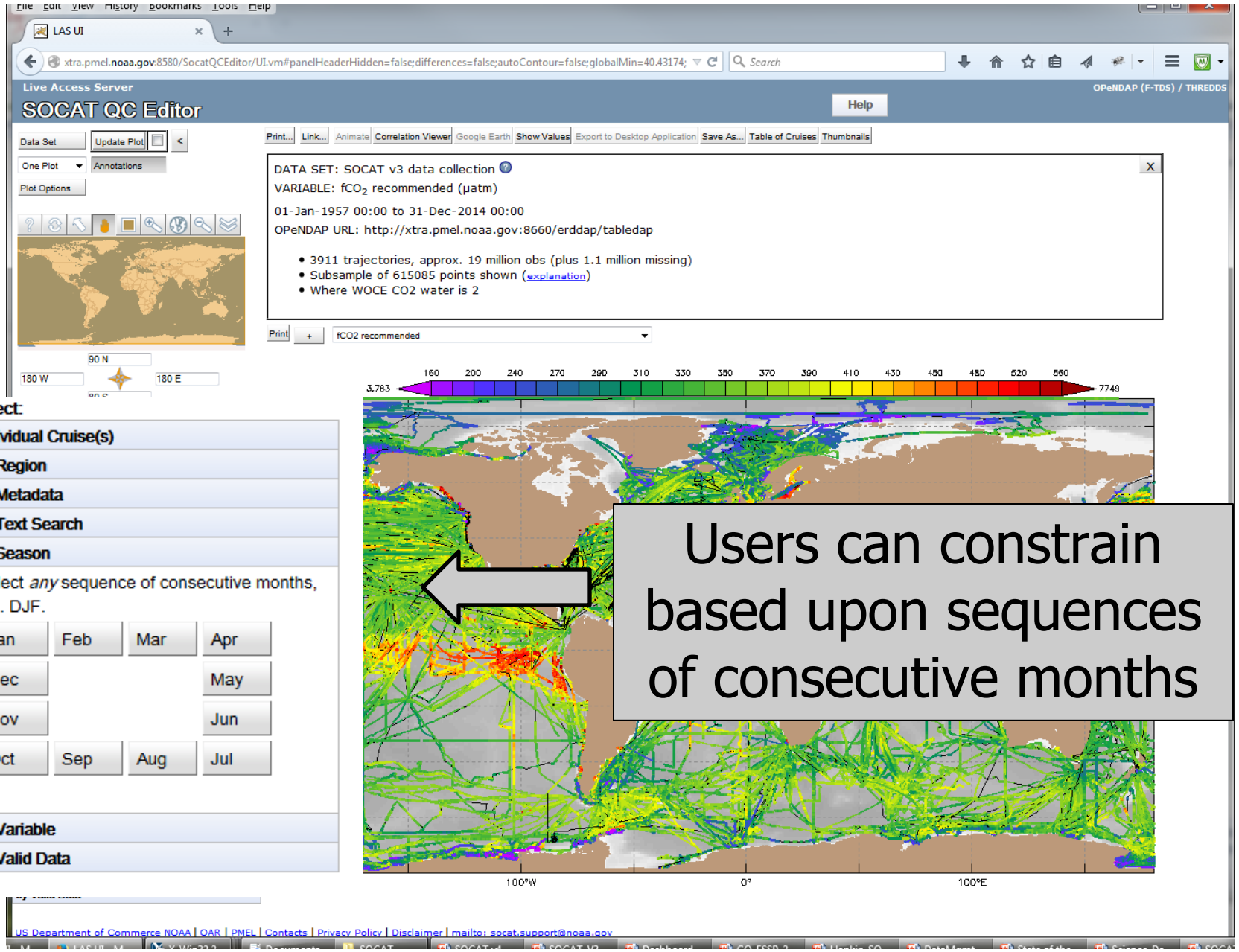


Users can select individual cruises by Expcode

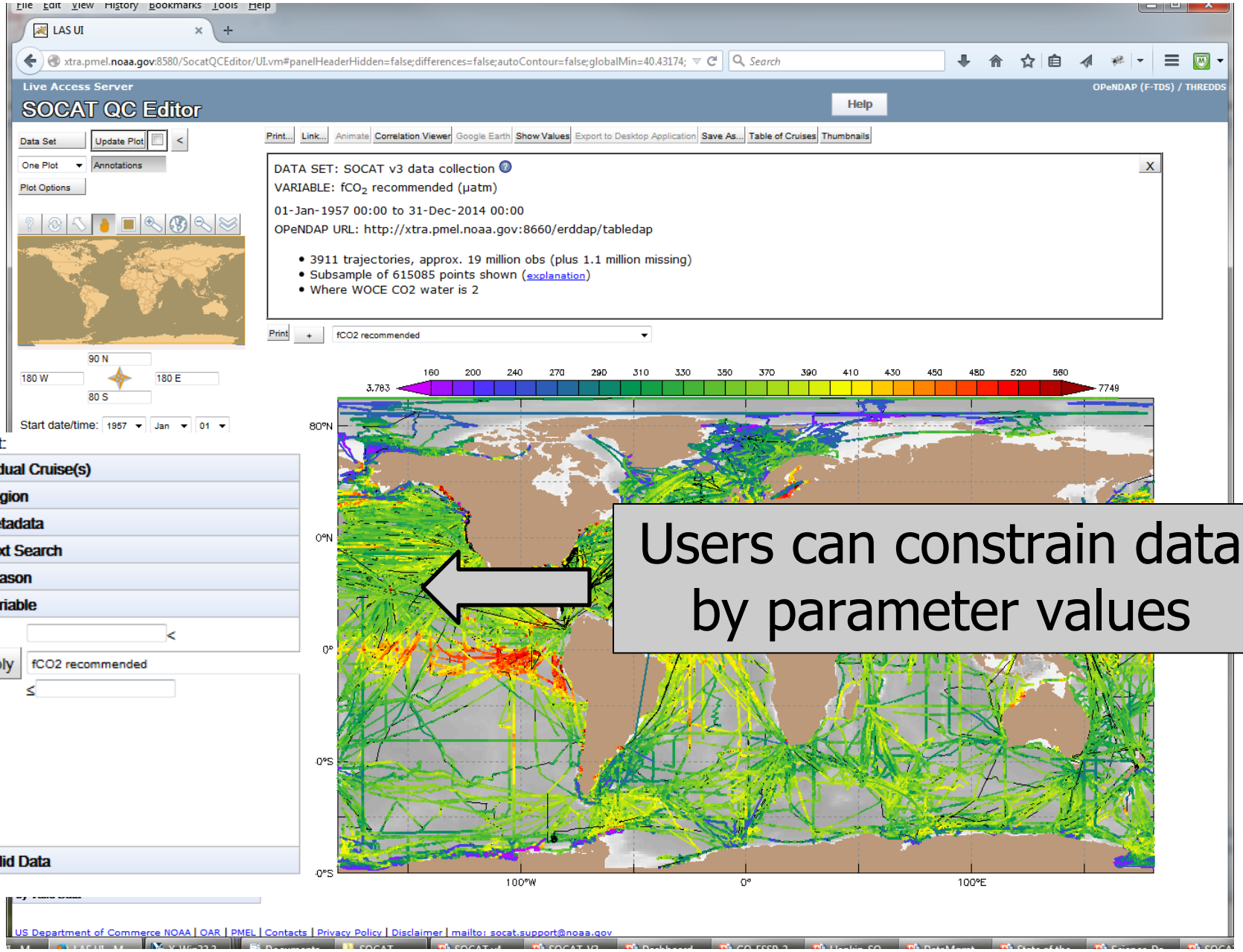


Users can select individual cruises by region

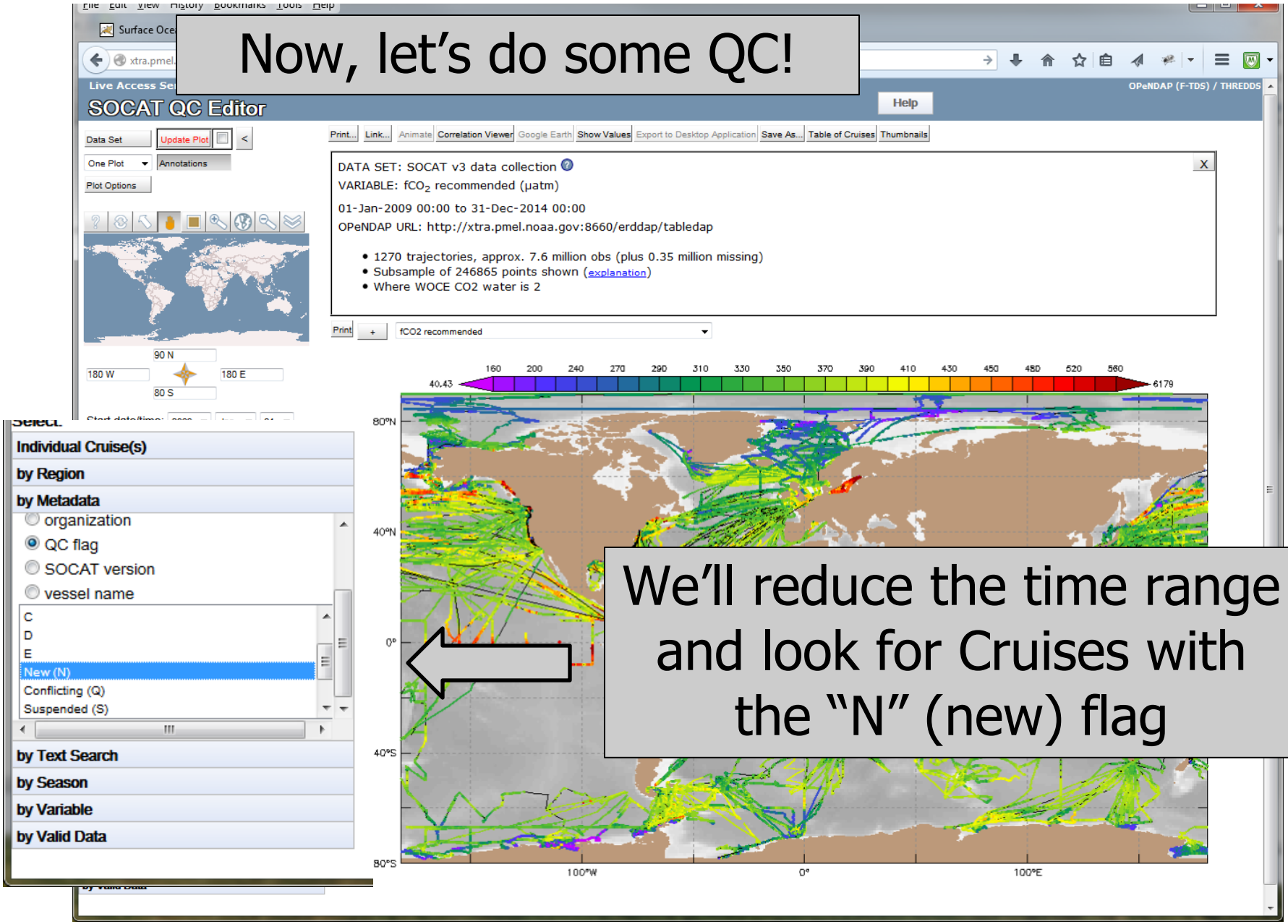

LAS UI
Live Access Server
SOCAT QC Editor
Help
DATA SET: SOCAT v3 data collection
VARIABLE: fCO2 recommended (µatm)
01-Jan-1957 00:00 to 31-Dec-2014 00:00
OPeNDAP URL: http://xtra.pmel.noaa.gov:8660/erddap/tabledap
• 3911 trajectories, approx. 19 million obs (plus 1.1 million missing)
• Subsample of 615085 points shown (explanation)
• Where WOCE CO2 water is 2
Select:
Individual Cruise(s)
by Region
by Metadata
Filter:
WOCE flag for water CO2
investigators
organization
QC flag
SOCAT version
vessel name
Choose variable from the group above,
by Text Search
by Season
by Variable
by Valid Data
Users can constrain on metadata content

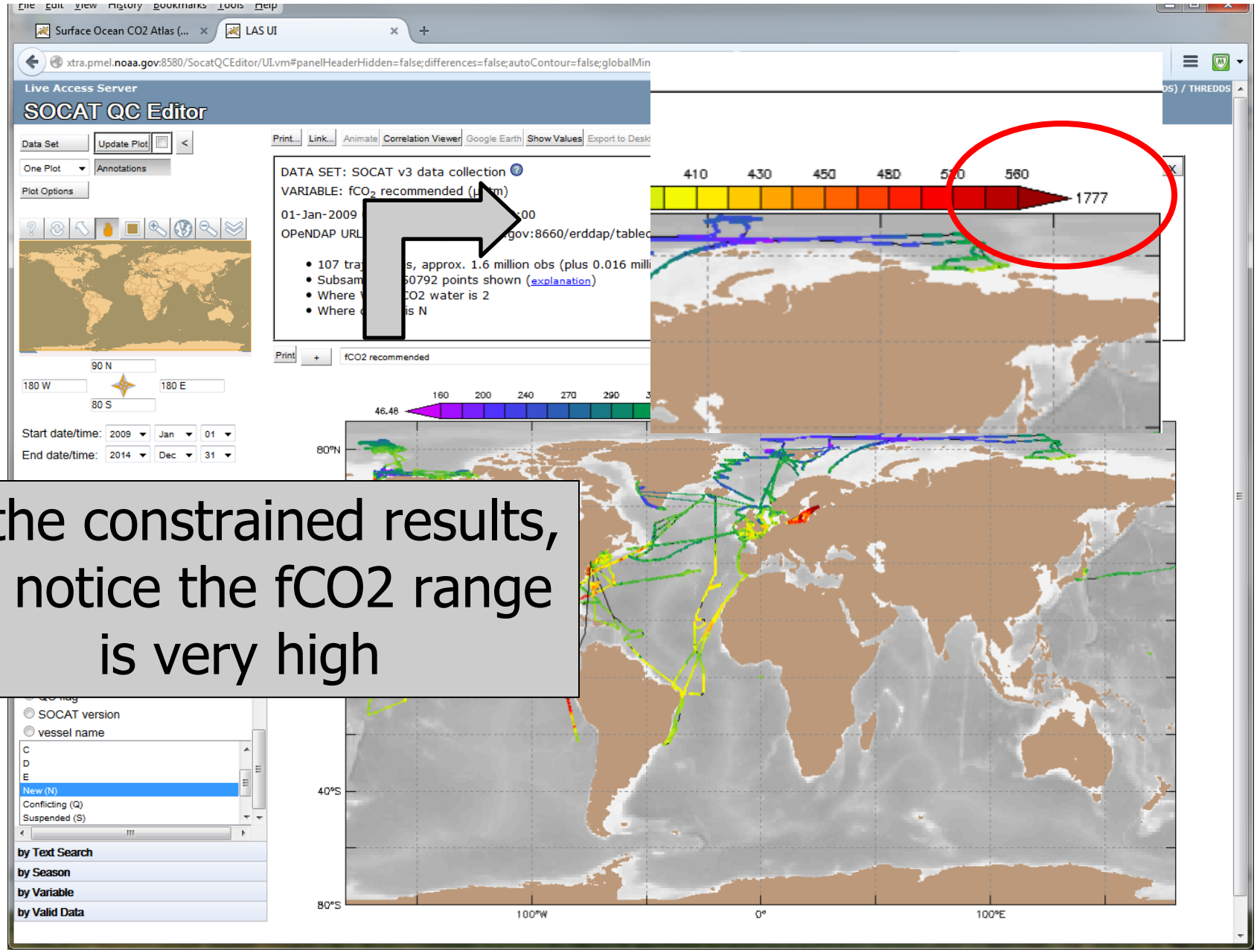


Users can constrain based upon sequences of consecutive months

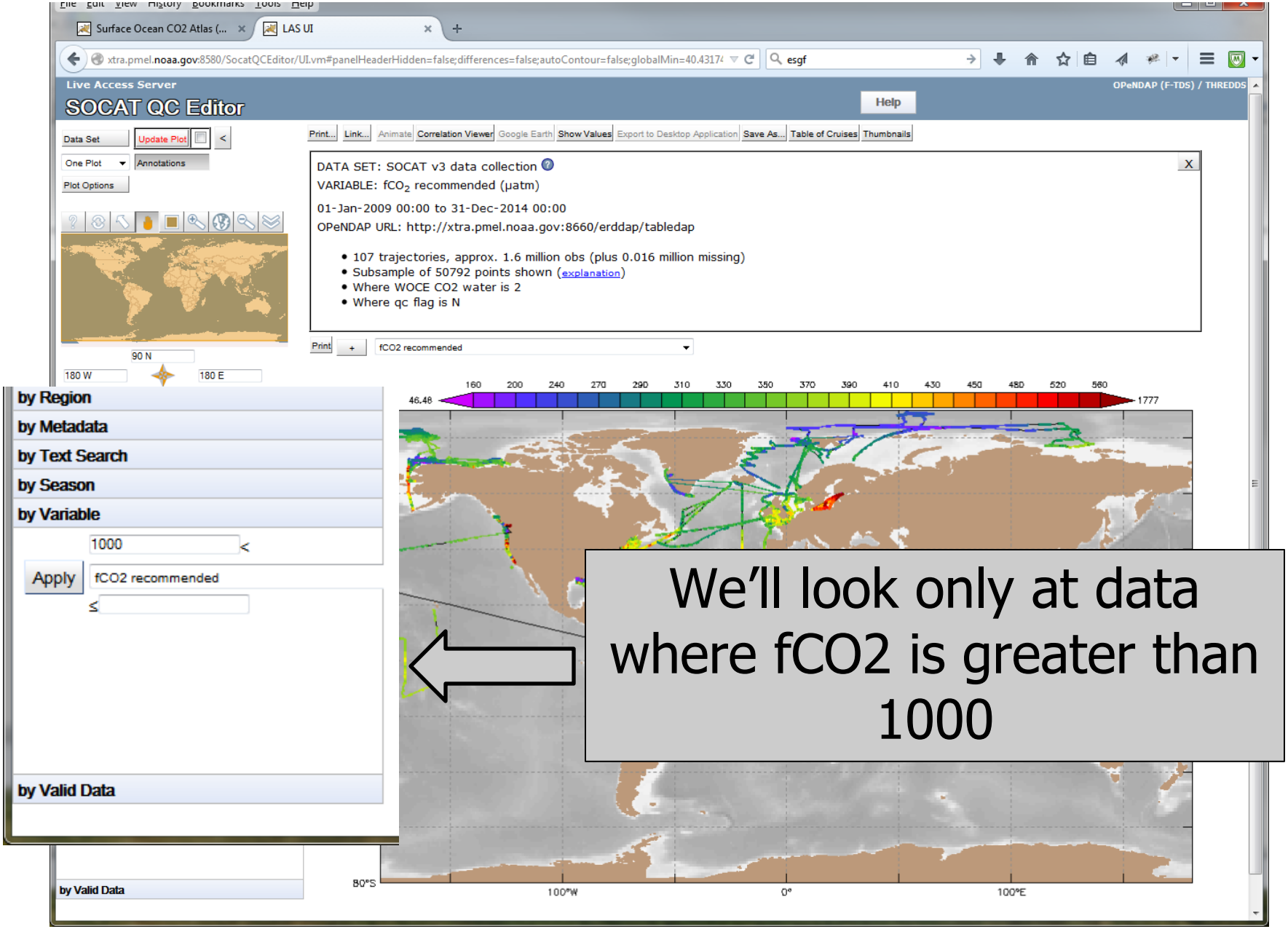


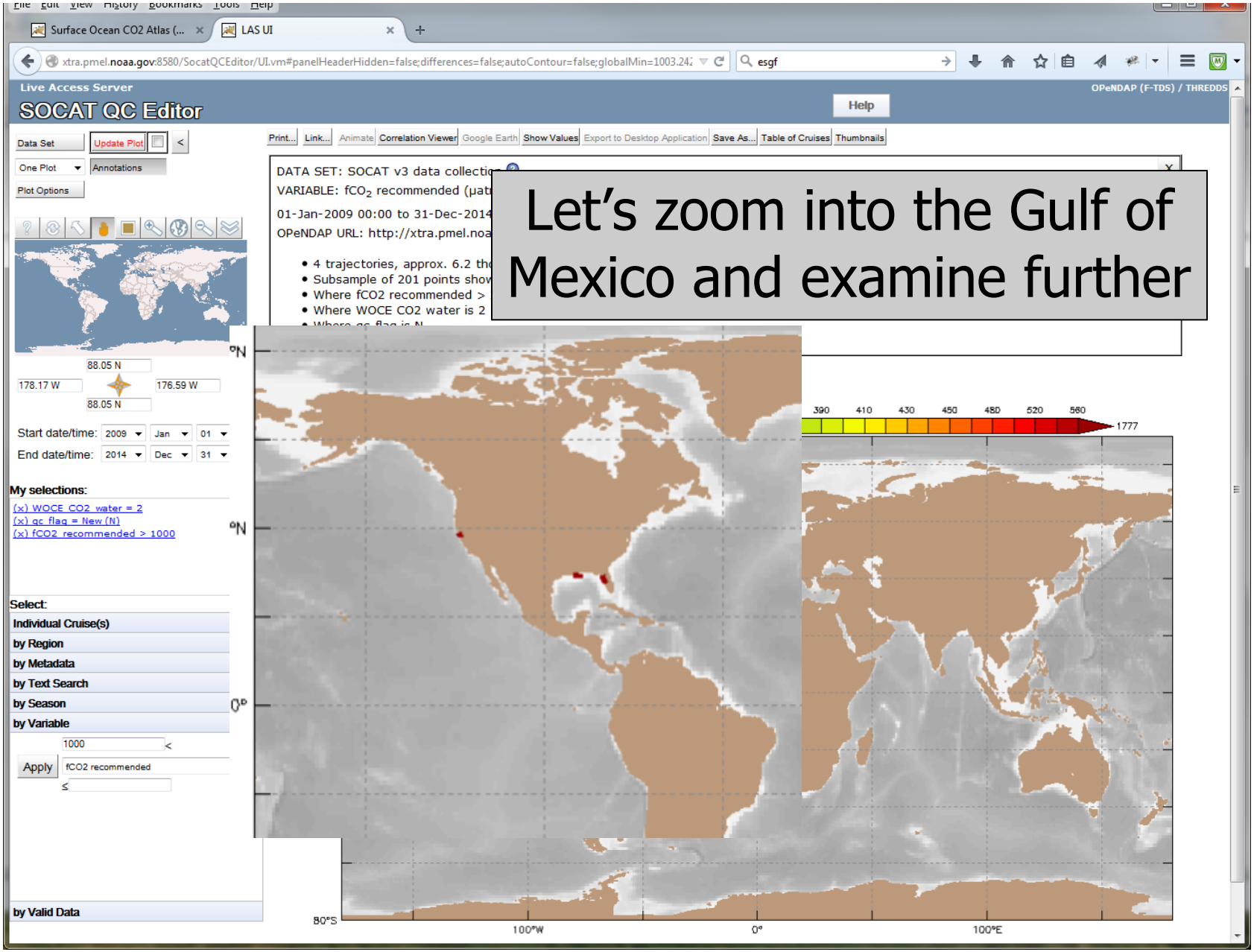
Users can constrain data by parameter values

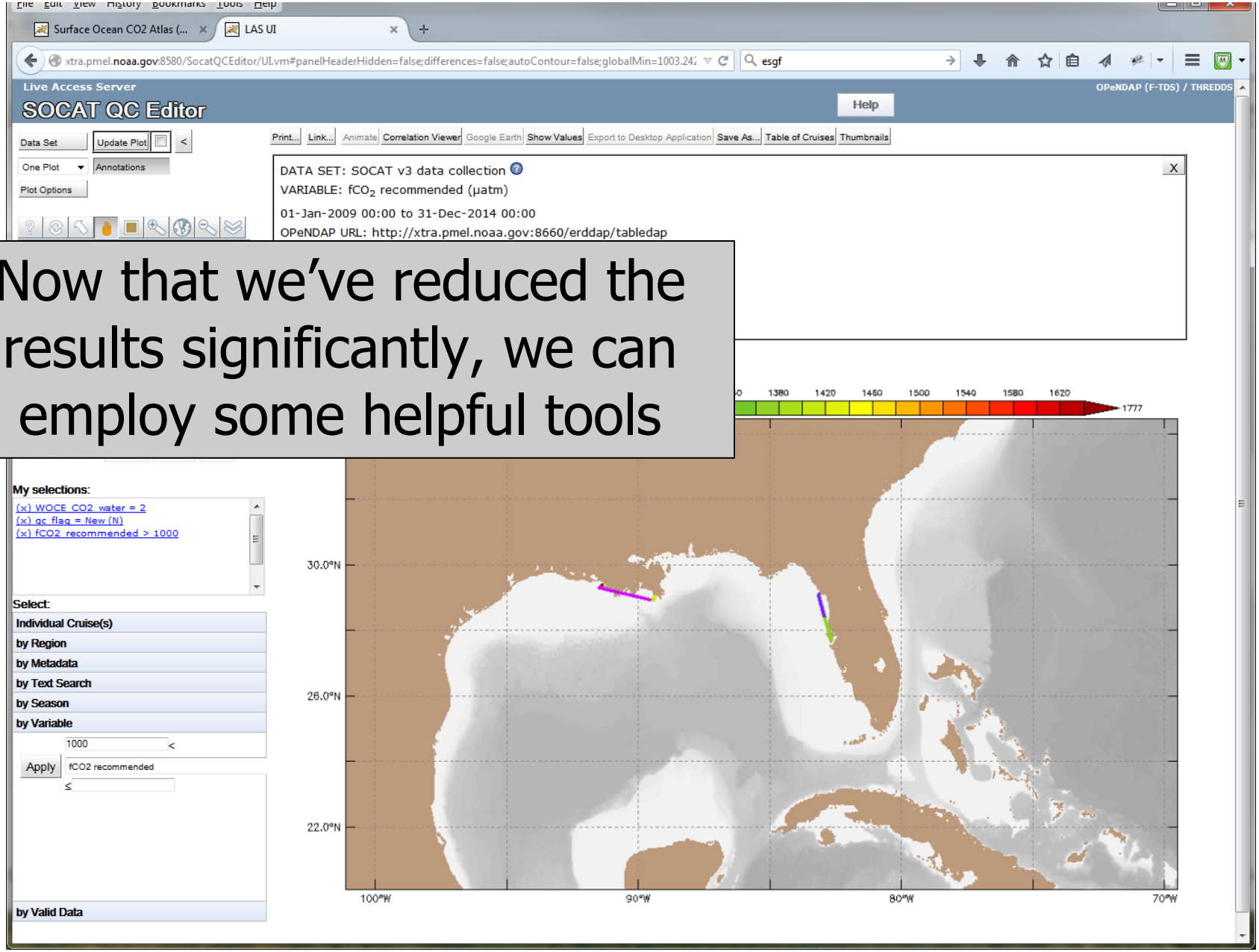

Now, let's do some QC!
SOCAT QC Editor
Help
Data Set
Update Plot
One Plot
Annotations
Plot Options
Print...
Link...
Animate
Correlation Viewer
Google Earth
Show Values
Export to Desktop Application
Save As...
Table of Cruises
Thumbnails
DATA SET: SOCAT v3 data collection
VARIABLE: fCO2 recommended (µatm)
01-Jan-2009 00:00 to 31-Dec-2014 00:00
OPeNDAP URL: http://xtra.pmel.noaa.gov:8660/erddap/tabledap
• 1270 trajectories, approx. 7.6 million obs (plus 0.35 million missing)
• Subsample of 246865 points shown (explanation)
• Where WOCE CO2 water is 2
fCO2 recommended
90 N
180 W
180 E
80 S
160 200 240 270 290 310 330 350 370 390 410 430 450 480 520 560
40.43
6179
80°N
40°N
0°
40°S
80°S
100°W
0°
100°E
Individual Cruise(s)
by Region
by Metadata
organization
QC flag
SOCAT version
vessel name
C
D
E
New (N)
Conflicting (Q)
Suspended (S)
by Text Search
by Season
by Variable
by Valid Data
We'll reduce the time range and look for Cruises with the "N" (new) flag



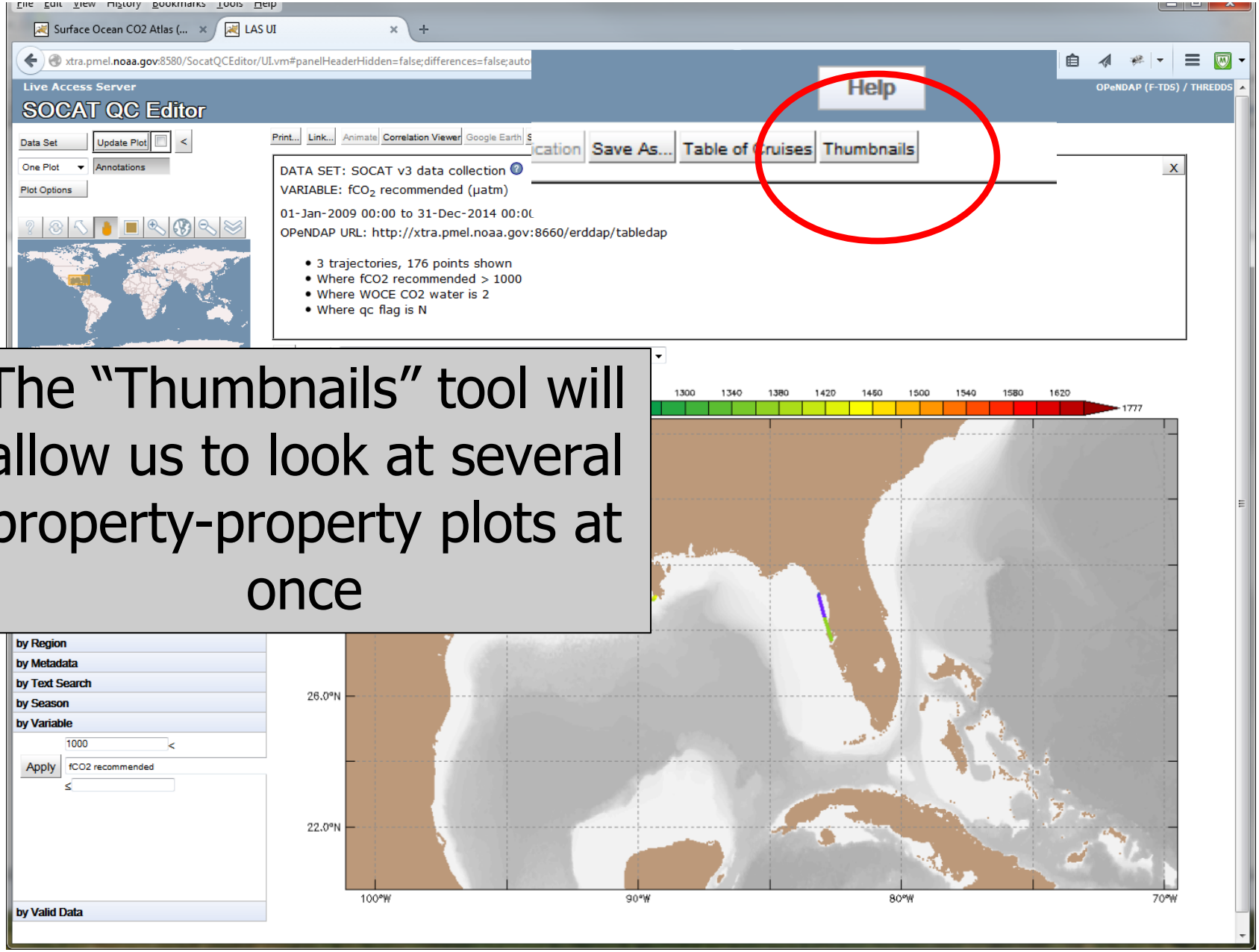
In the constrained results, we notice the fCO2 range is very high


Surface Ocean CO2 Atlas (...
LAS UI
xtra.pmel.noaa.gov:8580/SocatQCEditor/UI.vm#panelHeaderHidden=false;differences=false;autoContour=false;globalMin=40.4317
esgf
Live Access Server
OPeNDAP (F-TDS) / THREDDS
SOCAT QC Editor
Help
Data Set
Update Plot
One Plot
Annotations
Plot Options
Print...
Link...
Animate
Correlation Viewer
Google Earth
Show Values
Export to Desktop Application
Save As...
Table of Cruises
Thumbnails
DATA SET: SOCAT v3 data collection
VARIABLE: fCO2 recommended (µatm)
01-Jan-2009 00:00 to 31-Dec-2014 00:00
OPeNDAP URL: http://xtra.pmel.noaa.gov:8660/erddap/tabledap
• 107 trajectories, approx. 1.6 million obs (plus 0.016 million missing)
• Subsample of 50792 points shown (explanation)
• Where WOCE CO2 water is 2
• Where qc flag is N
Print
+
fCO2 recommended
90 N
180 W
180 E
by Region
by Metadata
by Text Search
by Season
by Variable
1000
<
Apply
fCO2 recommended
≤
by Valid Data
160 200 240 270 290 310 330 350 370 390 410 430 450 480 520 560
46.48
1777
80°S
100°W
0°
100°E
We'll look only at data where fCO2 is greater than 1000


Surface Ocean CO2 Atlas (...
LAS UI
xtra.pmel.noaa.gov:8580/SocatQCEditor/UI.vm#panelHeaderHidden=false;differences=false;autoContour=false;globalMin=1003.24
esgf
Live Access Server
SOCAT QC Editor
OPeNDAP (F-TDS) / THREDDS
Help
Data Set
Update Plot
One Plot
Annotations
Plot Options
Print...
Link...
Animate
Correlation Viewer
Google Earth
Show Values
Export to Desktop Application
Save As...
Table of Cruises
Thumbnails
DATA SET: SOCAT v3 data collectio
VARIABLE: fCO2 recommended (µat
01-Jan-2009 00:00 to 31-Dec-2014
OPeNDAP URL: http://xtra.pmel.noa
• 4 trajectories, approx. 6.2 th
• Subsample of 201 points show
• Where fCO2 recommended >
• Where WOCE CO2 water is 2
Let's zoom into the Gulf of Mexico and examine further
88.05 N
178.17 W
176.59 W
88.05 N
Start date/time: 2009 Jan 01
End date/time: 2014 Dec 31
My selections:
(x) WOCE_CO2_water = 2
(x) qc_flag = New (N)
(x) fCO2_recommended > 1000
Select:
Individual Cruise(s)
by Region
by Metadata
by Text Search
by Season
by Variable
1000
Apply
fCO2 recommended
by Valid Data
°N
0°
80°S
100°W
0°
100°E
390
410
430
450
480
520
560
1777



Now that we've reduced the results significantly, we can employ some helpful tools



The "Thumbnails" tool will allow us to look at several property-property plots at once

File Edit View History Bookmarks Tools Help

LAS Property-property Thu...

xtra.pmel.noaa.gov:8580/SocatQCEditor/productserver/templates/PPT.vm?catid=socatV3_c6c1_d431_8194&xml=<%3Fxml+version'

Search

Live Access Server

OPeNDAP (F-TDS) / THREDDS

SOCAT QC Editor: Property-property Thumbnails

Help

Select the desired cruise. Press the Update Plot button. Click on a thumb-nail plot to enlarge it.

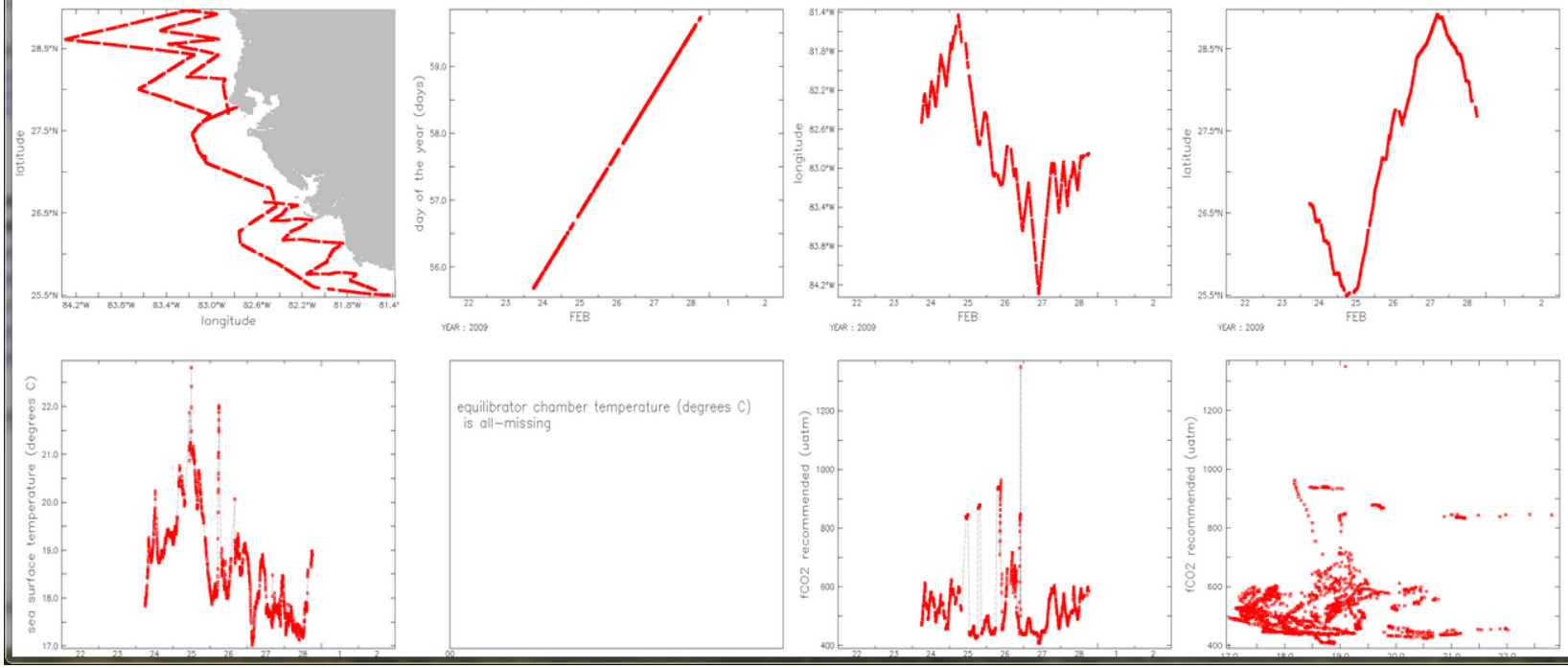
Filter:

Update Plots

319920090224

longitude >= -101.12336736526
longitude <= -69.513871310413
latitude >= 20.110816047964
latitude <= 34.465111262362
time >= 01-Jan-2009 00:00
time <= 31-Dec-2014 00:00
fCO2 recommended > 1000
WOCE_CO2_water = 2
qc_flag = N

EXPOCODE: 319920090224 **VESSEL_NAME:** unknown **INVESTIGATORS:** Robbins, L.L. **QC_FLAG:** N



File Edit View History Bookmarks Tools Help

LAS Property-property Thu...

xtra.pmel.noaa.gov:8580/SocatQCEditor/productserver/templates/PPT.vm?catid=socatV3_c6c1_d431_8194&xml=<%3Fxml+version

Search

Live Access Server

OPeNDAP (F-TDS) / THREDDS

SOCAT QC Editor: Property-property Thumbnails

Help

Select the desired cruise. Press the Update Plot button. Click on a thumb-nail plot to enlarge it.

Filter:

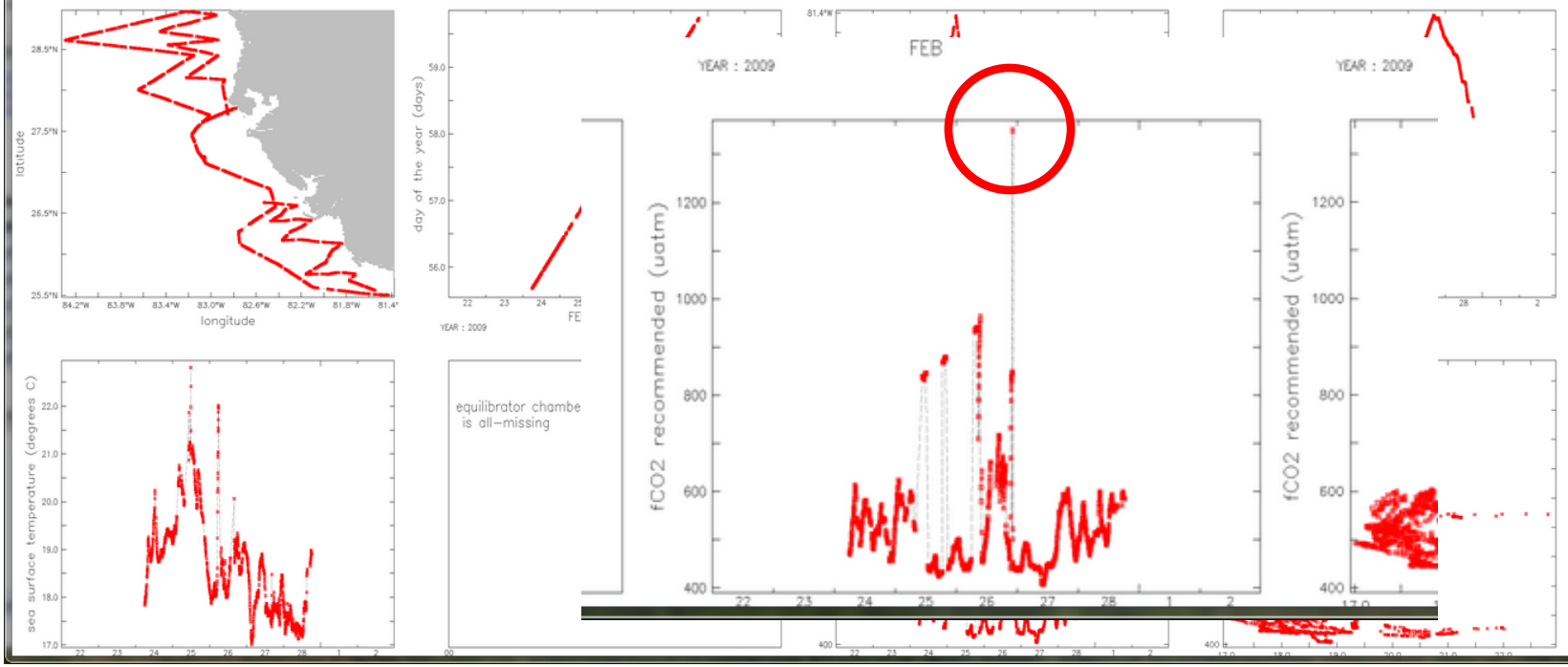
Update Plots

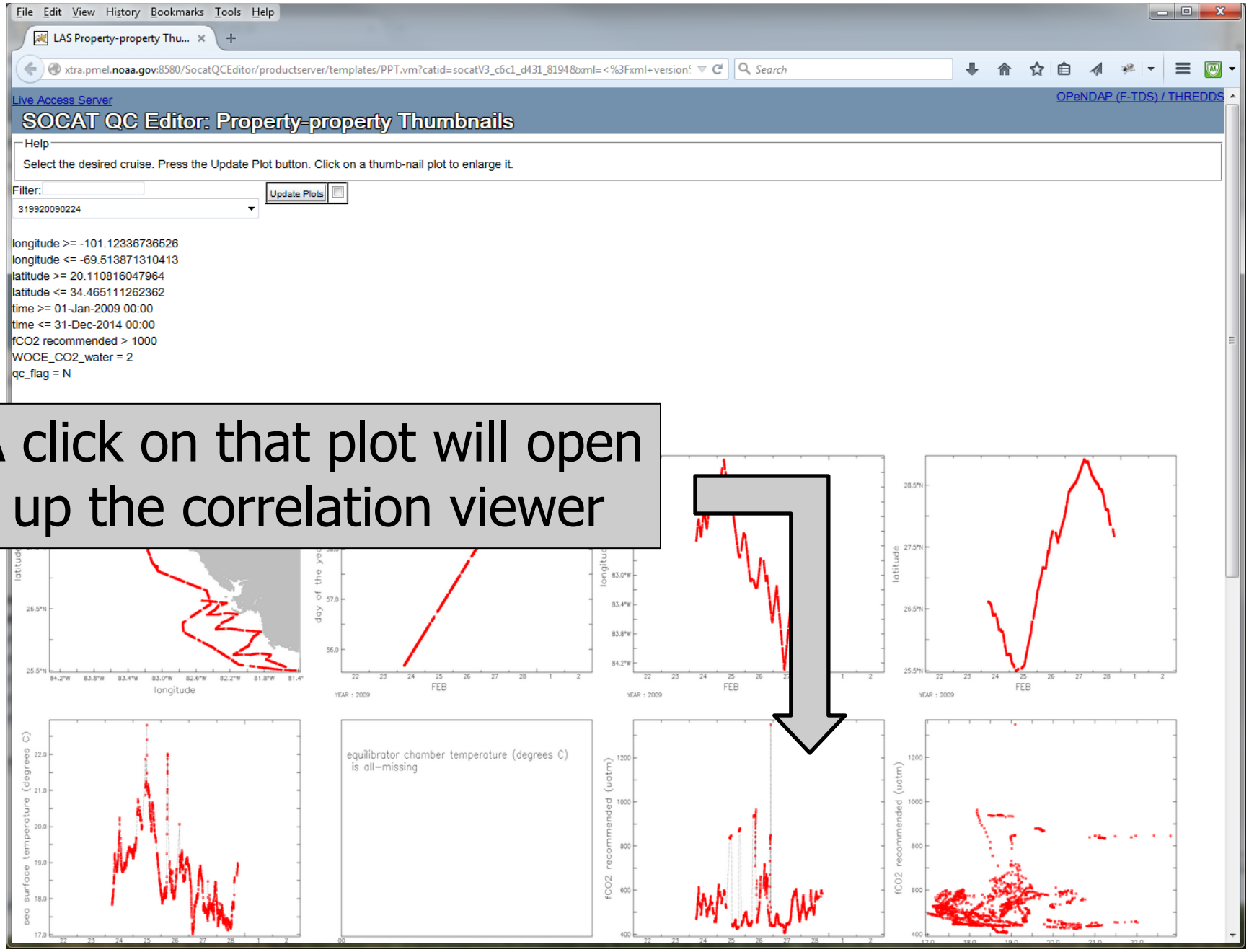
319920090224

longitude >= -101.12336736526

This allows us to quickly find outliers

EXPOCODE: 319920090224 **VESSEL_NAME:** unknown **INVESTIGATORS:** Robbins, L.L. **QC_FLAG:** N




File Edit View History Bookmarks Tools Help
LAS Property-property Thu...
xtra.pmel.noaa.gov:8580/SocatQCEditor/productserver/templates/PPT.vm?catid=socatV3_c6c1_d431_8194&xml=<%3Fxml+version
Search
Live Access Server
OPeNDAP (F-TDS) / THREDDS
SOCAT QC Editor: Property-property Thumbnails
Help
Select the desired cruise. Press the Update Plot button. Click on a thumb-nail plot to enlarge it.
Filter:
Update Plots
319920090224
longitude >= -101.12336736526
longitude <= -69.513871310413
latitude >= 20.110816047964
latitude <= 34.465111262362
time >= 01-Jan-2009 00:00
time <= 31-Dec-2014 00:00
fCO2 recommended > 1000
WOCE_CO2_water = 2
qc_flag = N
A click on that plot will open up the correlation viewer
latitude
longitude
day of the year
YEAR : 2009
FEB
sea surface temperature (degrees C)
equilibrator chamber temperature (degrees C)
is all-missing
fCO2 recommended (uatm)

File Edit View History Bookmarks Tools Help

LAS Property-Property Vie...

xtra.pmel.noaa.gov:8580/SocatQCEditor/productserver/templates/SPPV.vm?catid=socatV3_c6c1_d431_8194&xml=<%3Fxml+versior

Search

Live Access Server

OPeNDAP (F-TDS) / THREDDS

SOCAT QC Editor: Property-Property Viewer

Help

Update Plot | Print | Link... | Data Table | Edit Flags

Fixed Constraints from the main interface:

longitude >= -180.0
longitude <= 180
latitude >= -80.0
latitude <= 90
time >= 01-Jan-1957 00:00:00
time <= 31-Dec-2014 00:00:00

My selections:

Select:

by Variable

Apply fCO2 recommended

319920090224

Data Selection:

fCO2 recommended

as a function of Time

Colored by expocode

Annotations

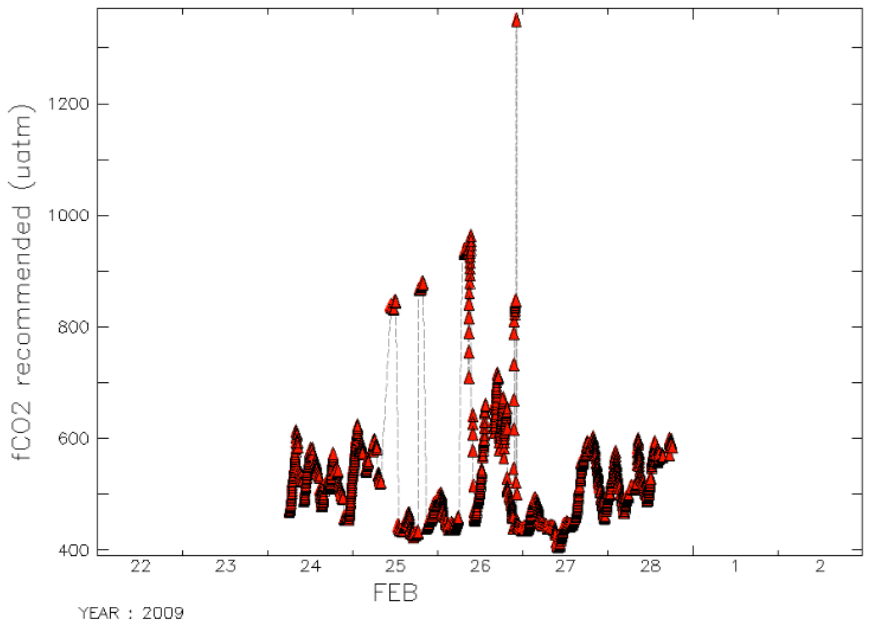
DATA SET: SOCAT v3 data collection

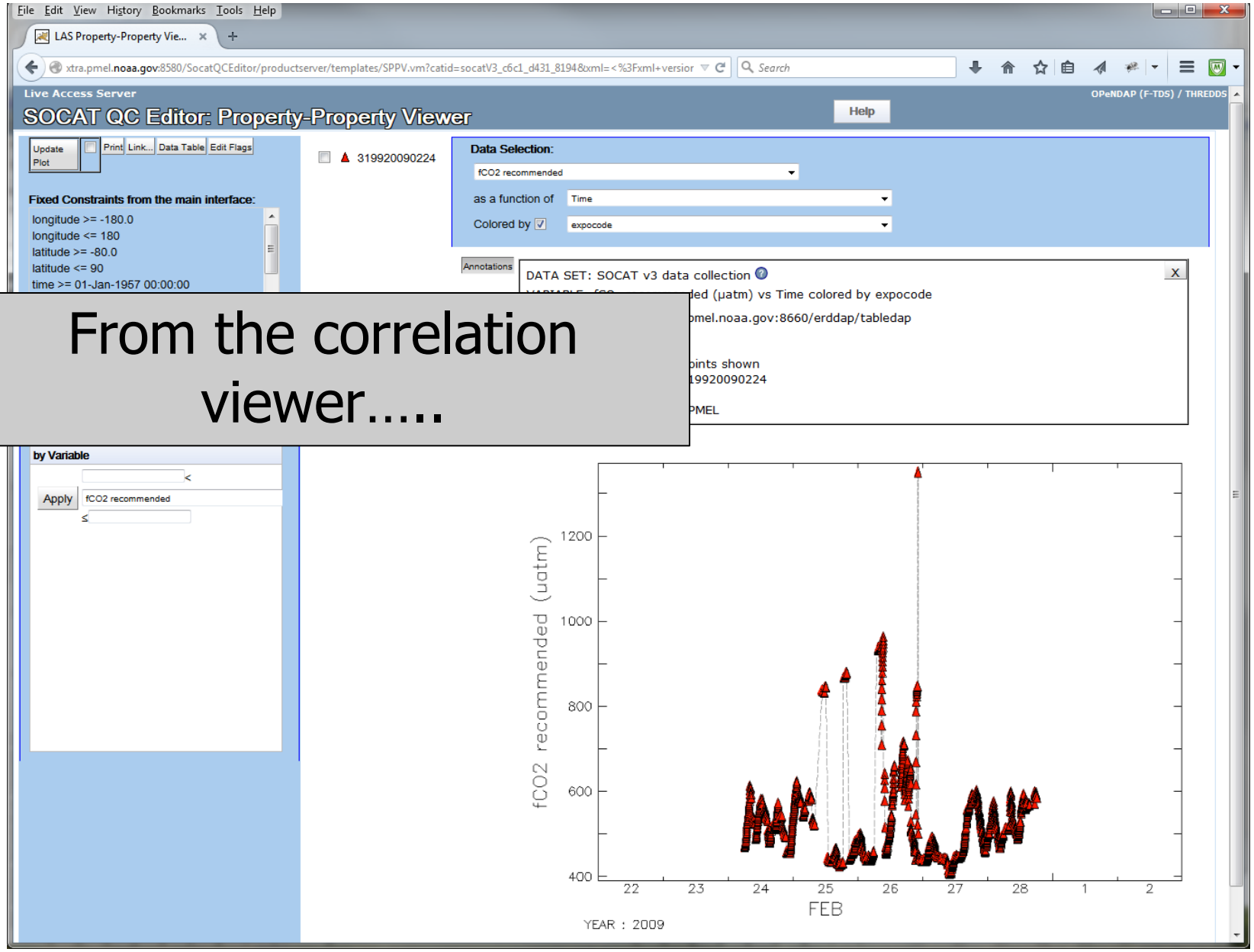
VARIABLE: fCO_2 recommended (µatm) vs Time colored by expocode

OPeNDAP URL: http://xtra.pmel.noaa.gov:8660/erddap/tabledap

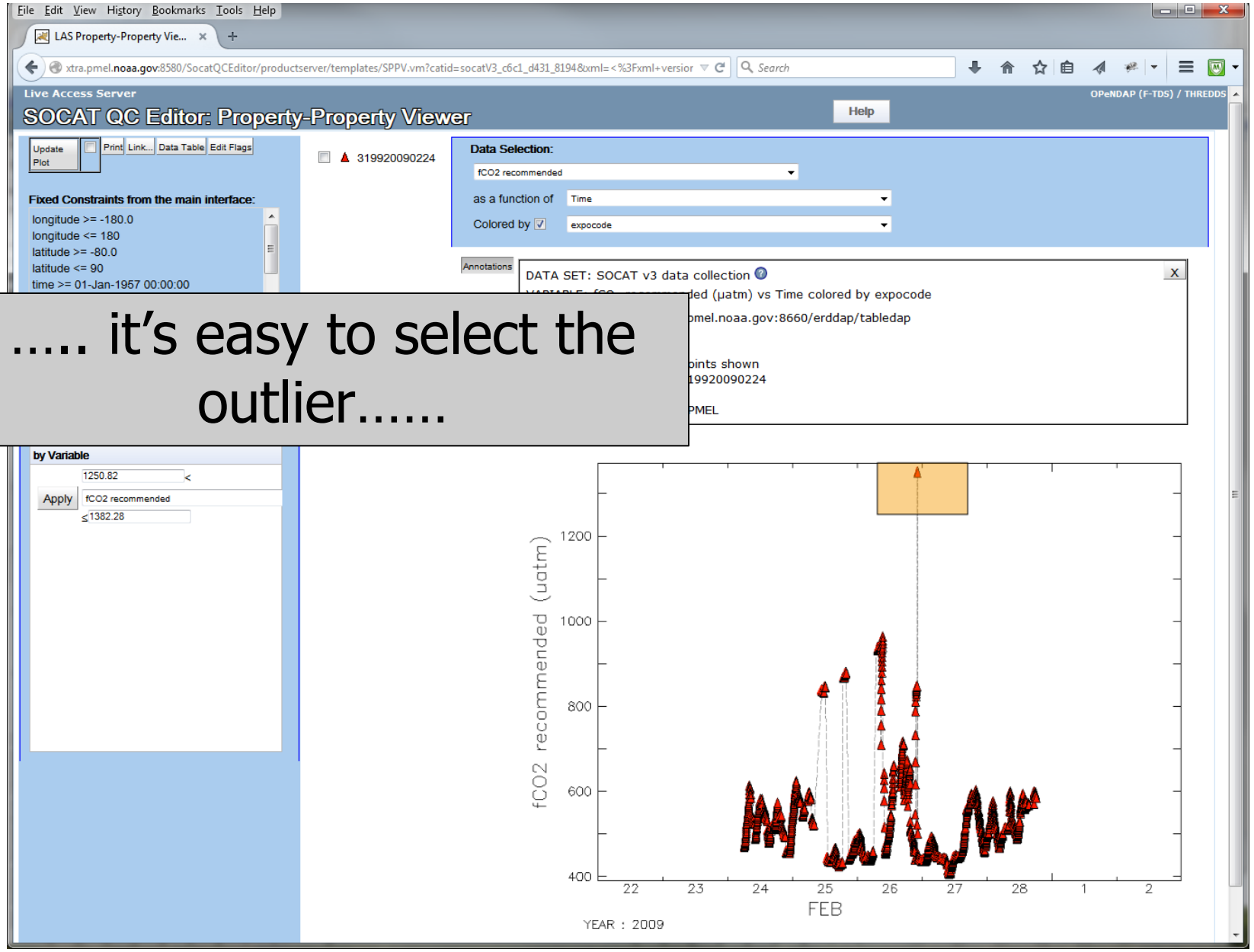
- YEAR : 2009
- 1 trajectory , 1812 points shown
- Where expocode is 319920090224

LAS 8./Ferret 6.932 NOAA/PMEL

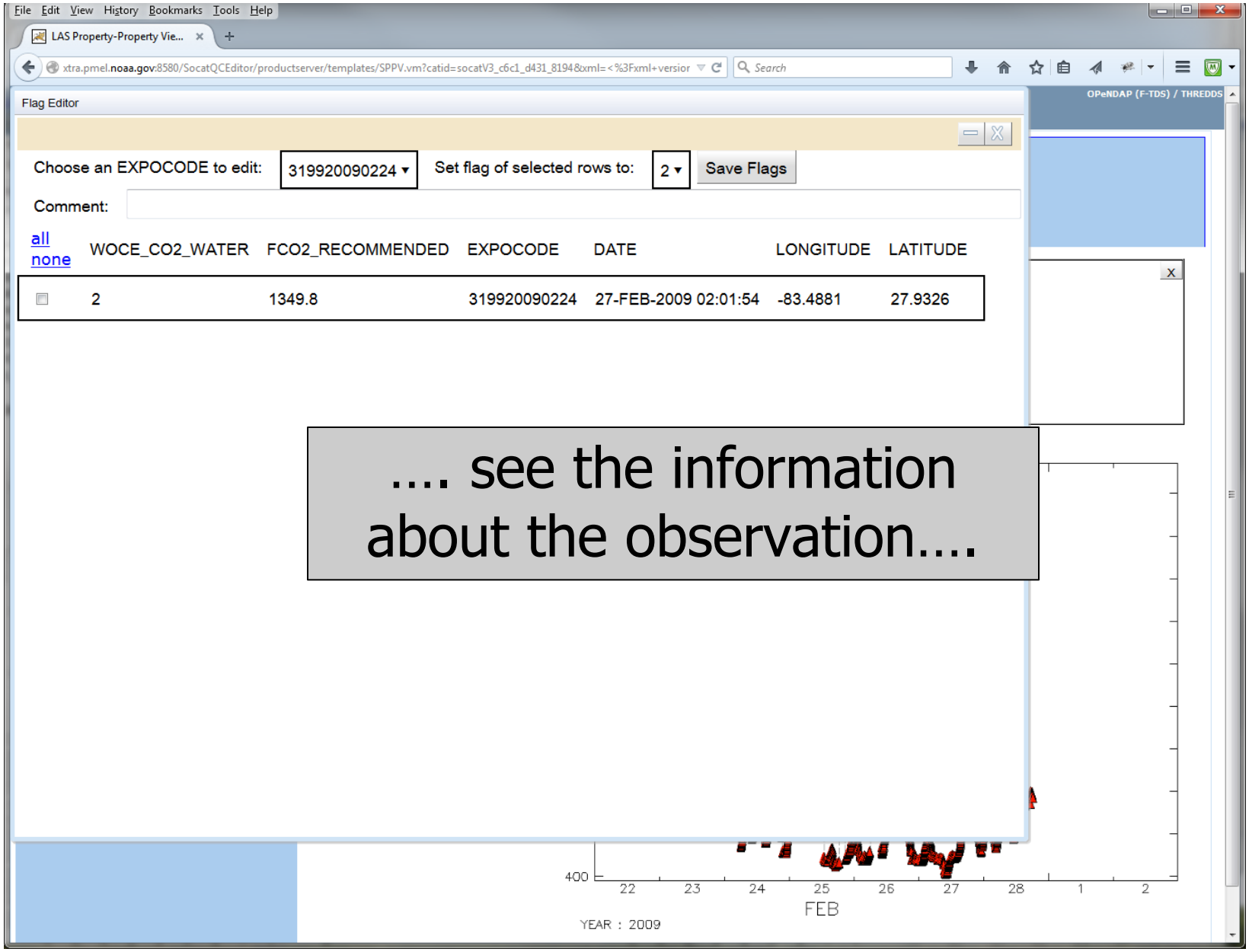


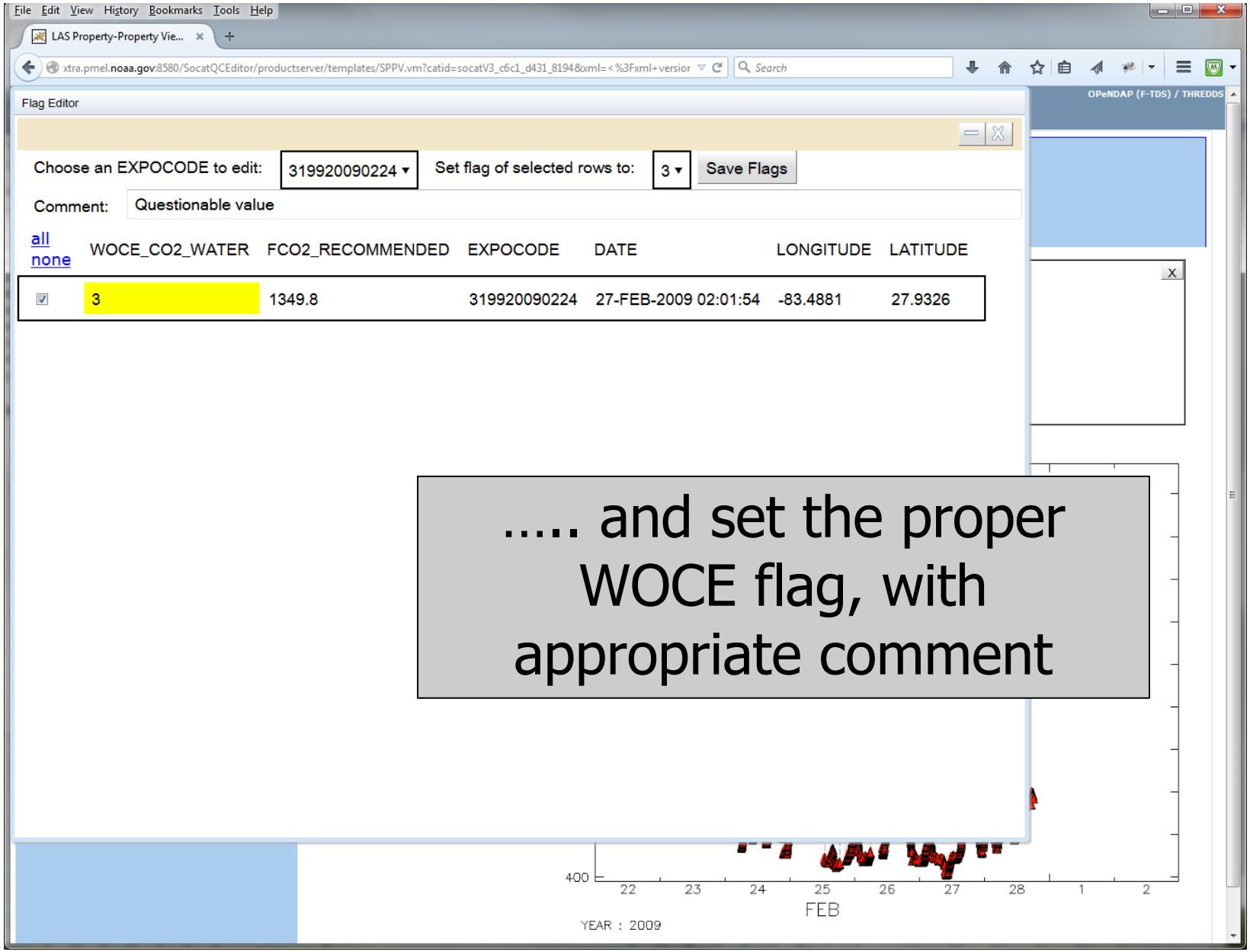


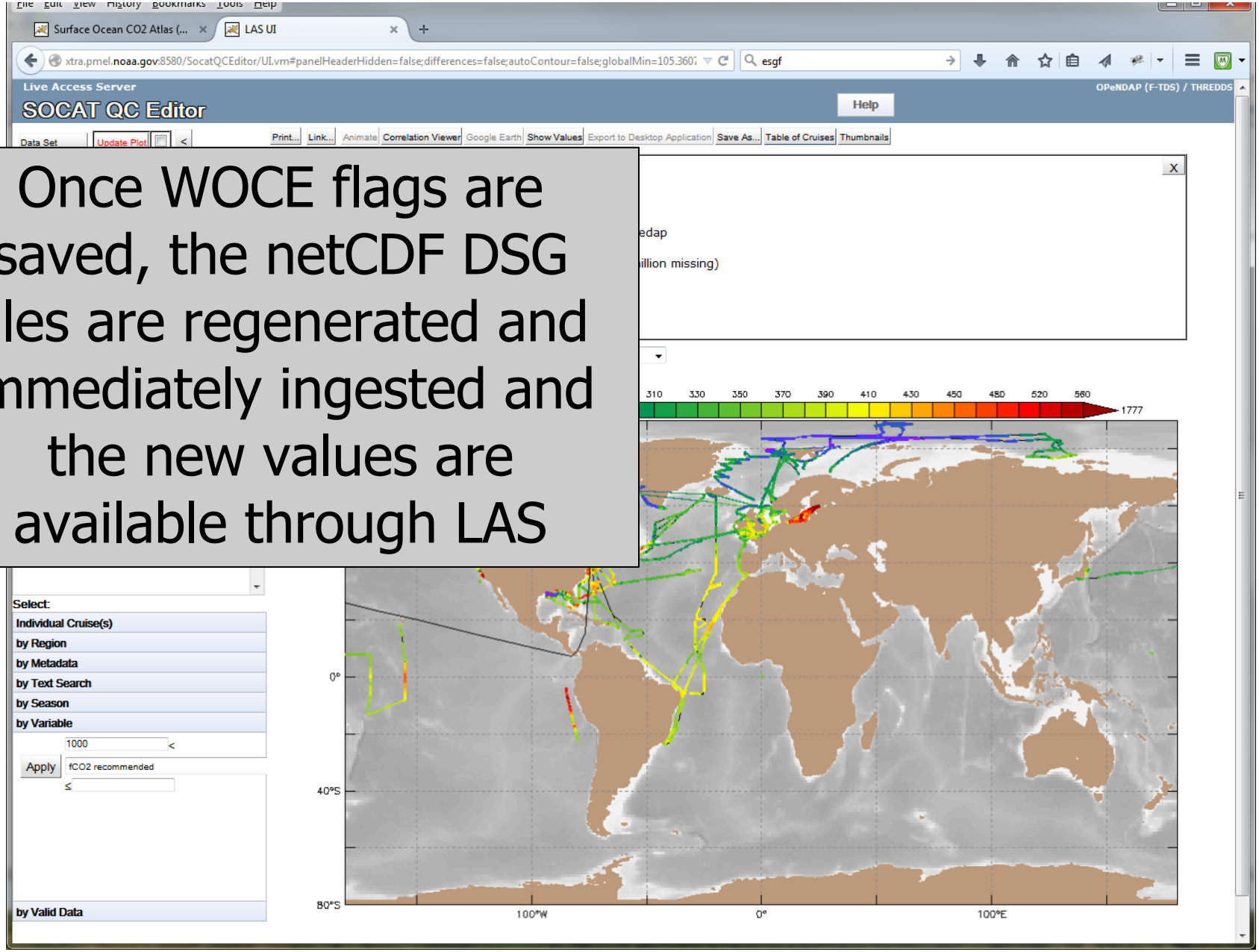
From the correlation viewer…..



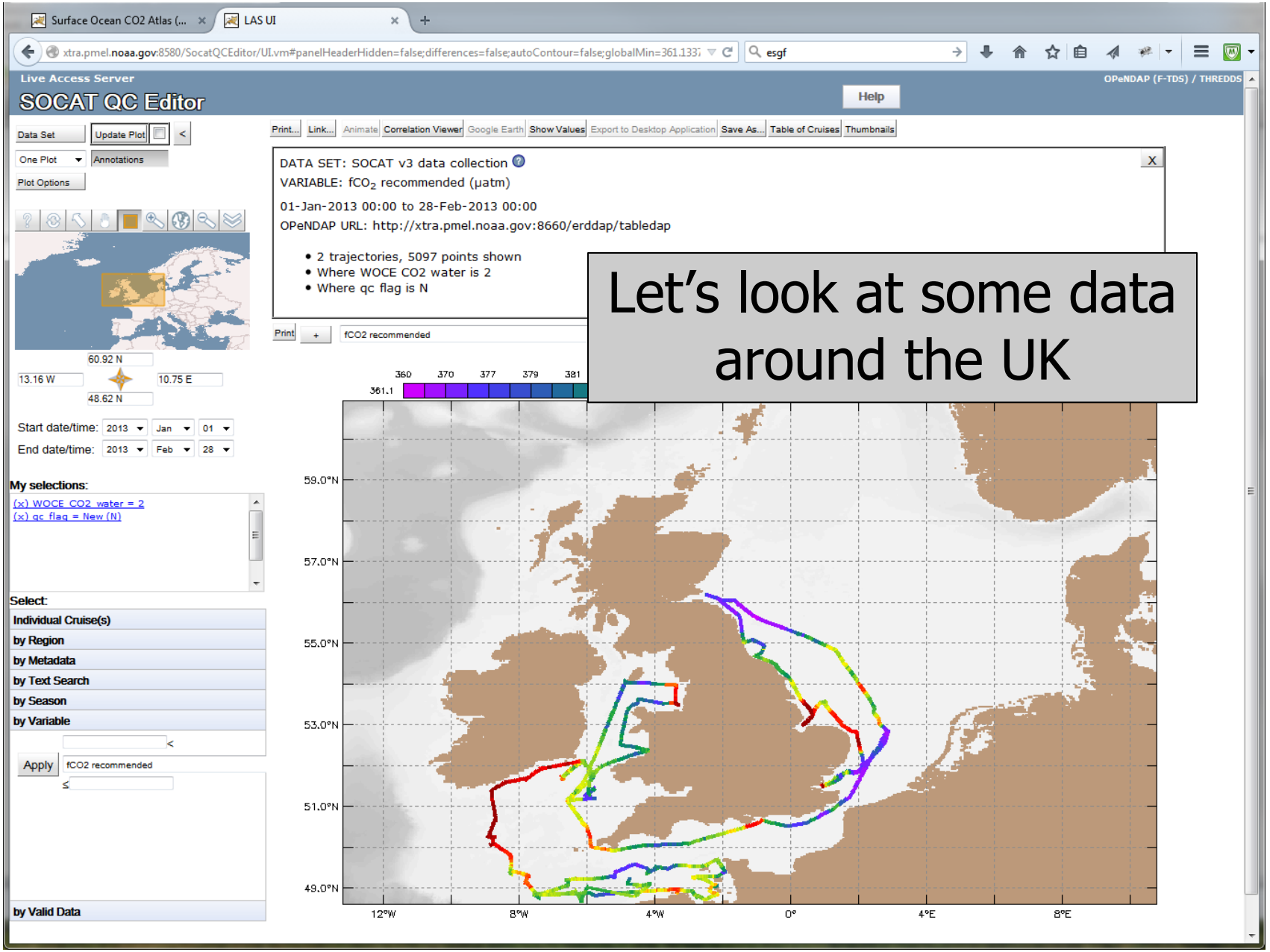
..... it's easy to select the outlier.....

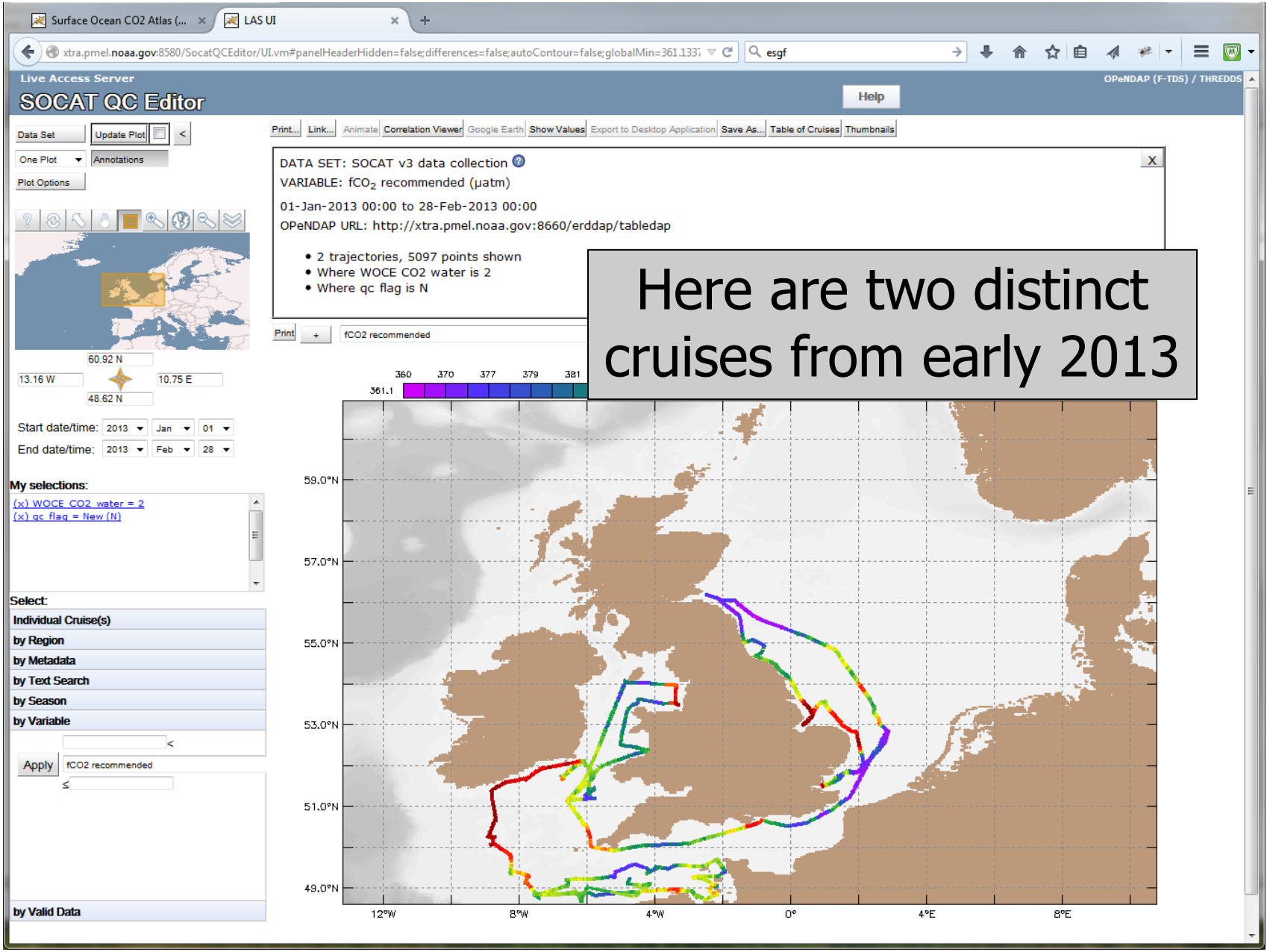

File Edit View History Bookmarks Tools Help
LAS Property-Property Vie...
xtra.pmel.noaa.gov:8580/SocatQCEditor/productserver/templates/SPPV.vm?catid=socatV3_c6c1_d431_8194&xml=<%3Fxml+versior
Search
OPeNDAP (F-TDS) / THREDDS
Flag Editor
Choose an EXPOCODE to edit:
319920090224
Set flag of selected rows to:
2
Save Flags
Comment:
all
none
WOCE_CO2_WATER
FCO2_RECOMMENDED
EXPOCODE
DATE
LONGITUDE
LATITUDE
2
1349.8
319920090224
27-FEB-2009 02:01:54
-83.4881
27.9326
.... see the information about the observation....
400
22
23
24
25
26
27
28
1
2
FEB
YEAR : 2009


File Edit View History Bookmarks Tools Help
LAS Property-Property Vie...
xtra.pmel.noaa.gov:8580/SocatQCEditor/productserver/templates/SPPV.vm?catid=socatV3_c6c1_d431_8194&xml=<%3Fxml+versior
Search
OPeNDAP (F-TDS) / THREDDS
Flag Editor
Choose an EXPOCODE to edit:
319920090224
Set flag of selected rows to:
3
Save Flags
Comment:
Questionable value
all
none
WOCE_CO2_WATER
FCO2_RECOMMENDED
EXPOCODE
DATE
LONGITUDE
LATITUDE
3
1349.8
319920090224
27-FEB-2009 02:01:54
-83.4881
27.9326
..... and set the proper WOCE flag, with appropriate comment
400
22
23
24
25
26
27
28
1
2
FEB
YEAR : 2009



Once WOCE flags are saved, the netCDF DSG files are regenerated and immediately ingested and the new values are available through LAS


Surface Ocean CO2 Atlas (...
LAS UI
xtra.pmel.noaa.gov:8580/SocatQCEditor/UI.vm#panelHeaderHidden=false;differences=false;autoContour=false;globalMin=361.133
esgf
Live Access Server
SOCAT QC Editor
OPeNDAP (F-TDS) / THREDDS
Help
Data Set
Update Plot
One Plot
Annotations
Plot Options
Print...
Link...
Animate
Correlation Viewer
Google Earth
Show Values
Export to Desktop Application
Save As...
Table of Cruises
Thumbnails
DATA SET: SOCAT v3 data collection
VARIABLE: fCO2 recommended (µatm)
01-Jan-2013 00:00 to 28-Feb-2013 00:00
OPeNDAP URL: http://xtra.pmel.noaa.gov:8660/erddap/tabledap
• 2 trajectories, 5097 points shown
• Where WOCE CO2 water is 2
• Where qc flag is N
Let's look at some data around the UK
60.92 N
13.16 W
10.75 E
48.62 N
Start date/time: 2013 Jan 01
End date/time: 2013 Feb 28
My selections:
(x) WOCE CO2 water = 2
(x) qc flag = New (N)
Select:
Individual Cruise(s)
by Region
by Metadata
by Text Search
by Season
by Variable
Apply
fCO2 recommended
by Valid Data
Print
+
fCO2 recommended
360 370 377 379 381
361.1
59.0°N
57.0°N
55.0°N
53.0°N
51.0°N
49.0°N
12°W
8°W
4°W
0°
4°E
8°E


Surface Ocean CO2 Atlas (...
LAS UI
xtra.pmel.noaa.gov:8580/SocatQCEditor/UI.vm#panelHeaderHidden=false;differences=false;autoContour=false;globalMin=361.133
esgf
Live Access Server
SOCAT QC Editor
OPeNDAP (F-TDS) / THREDDS
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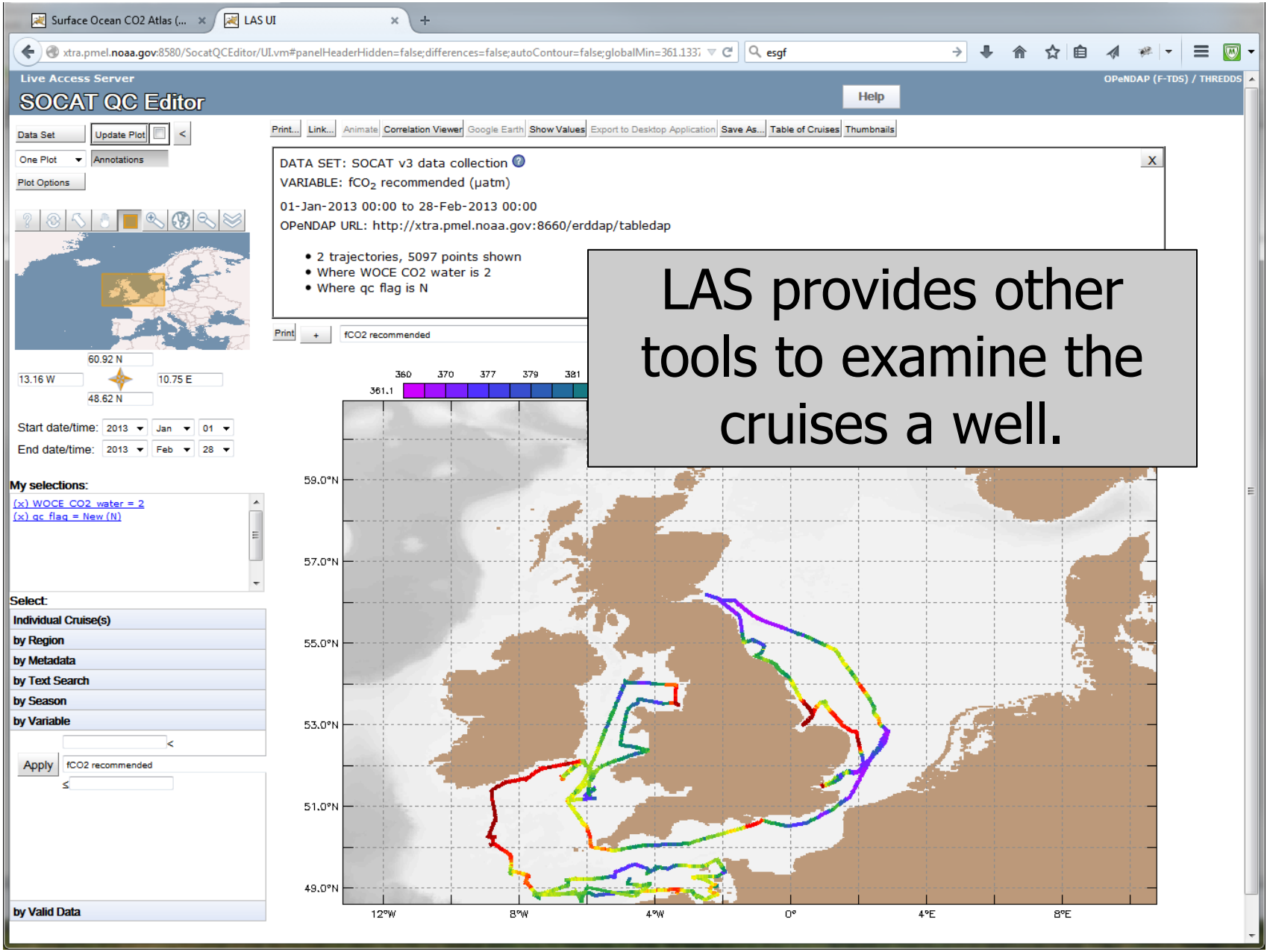
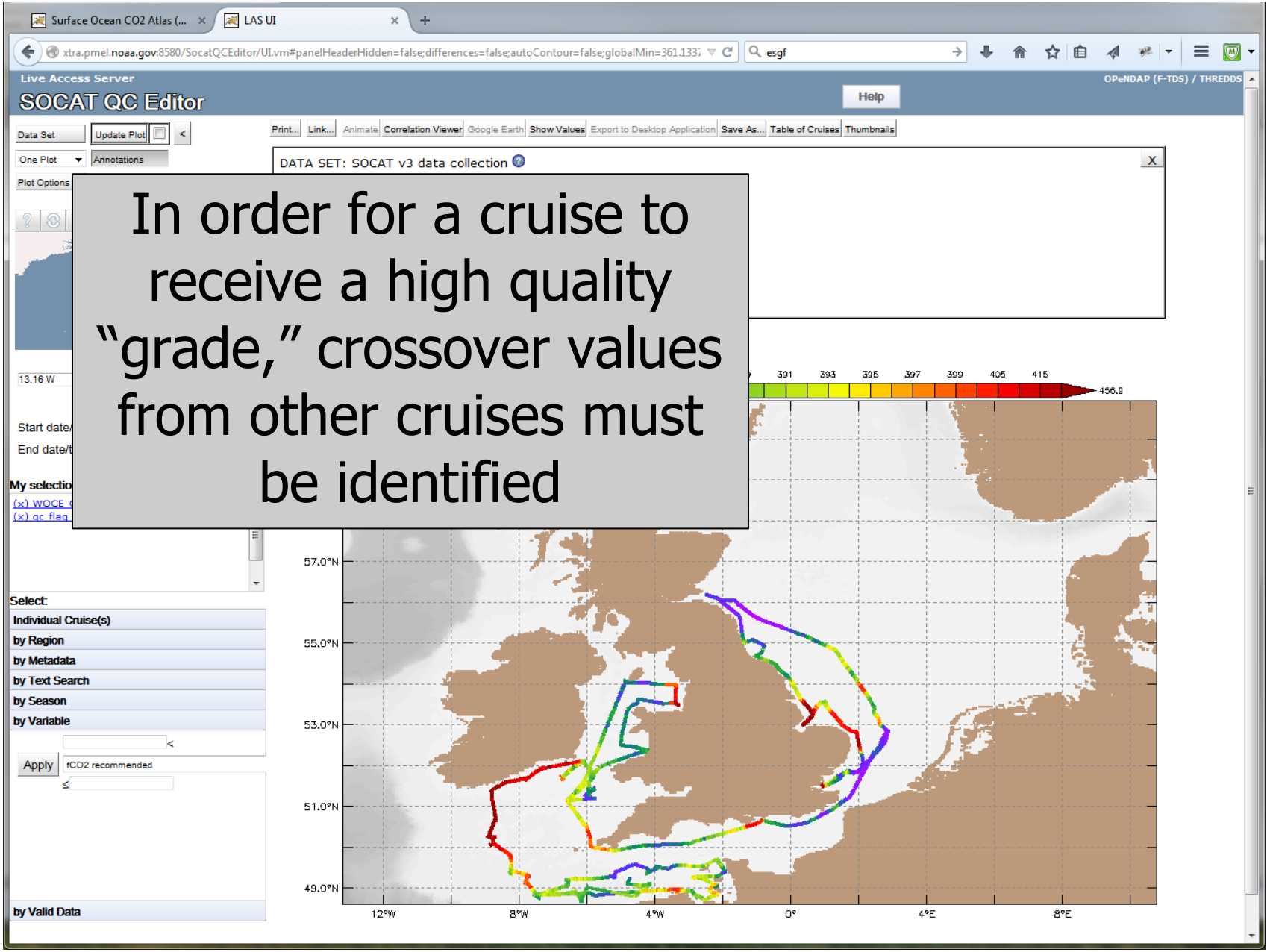
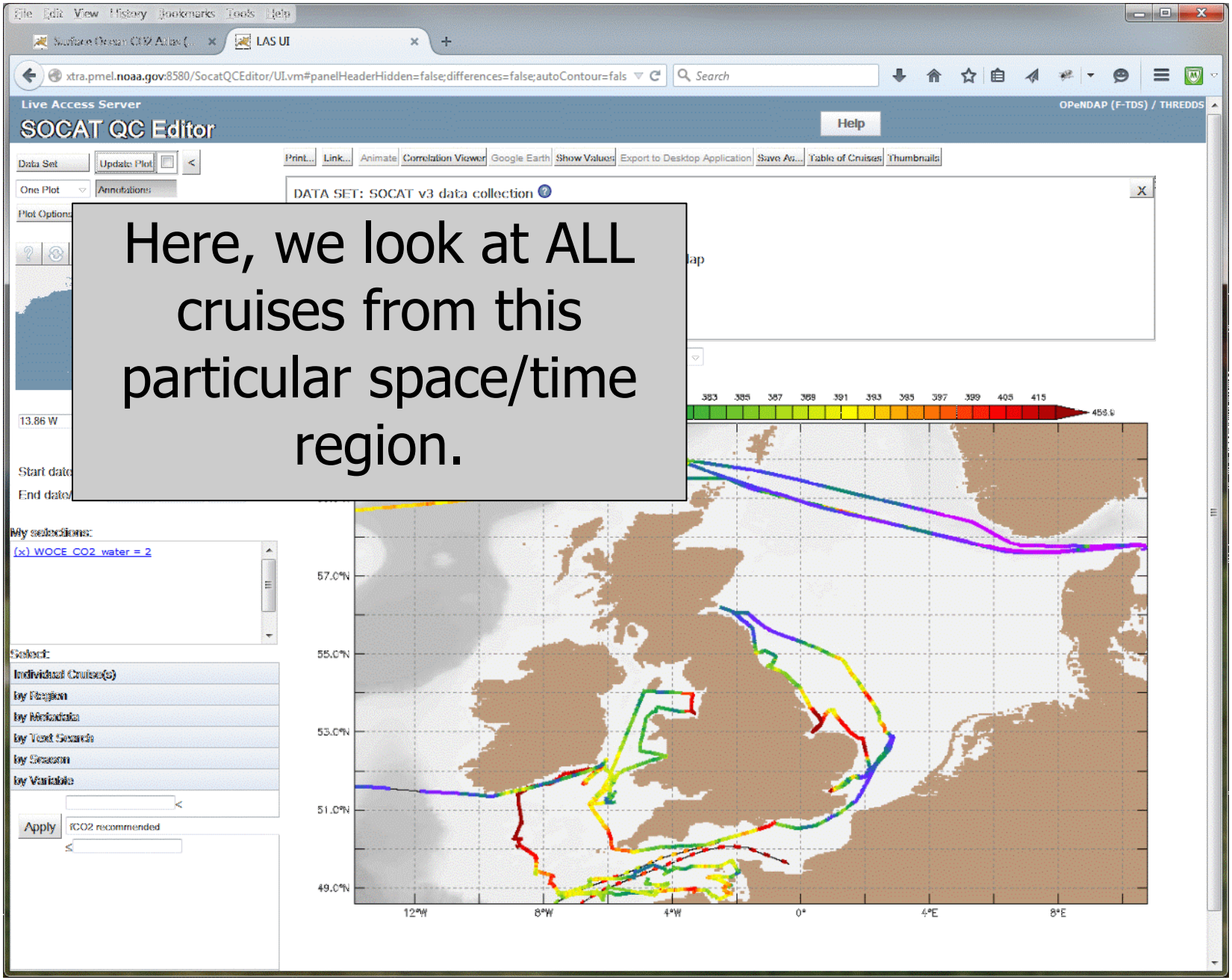
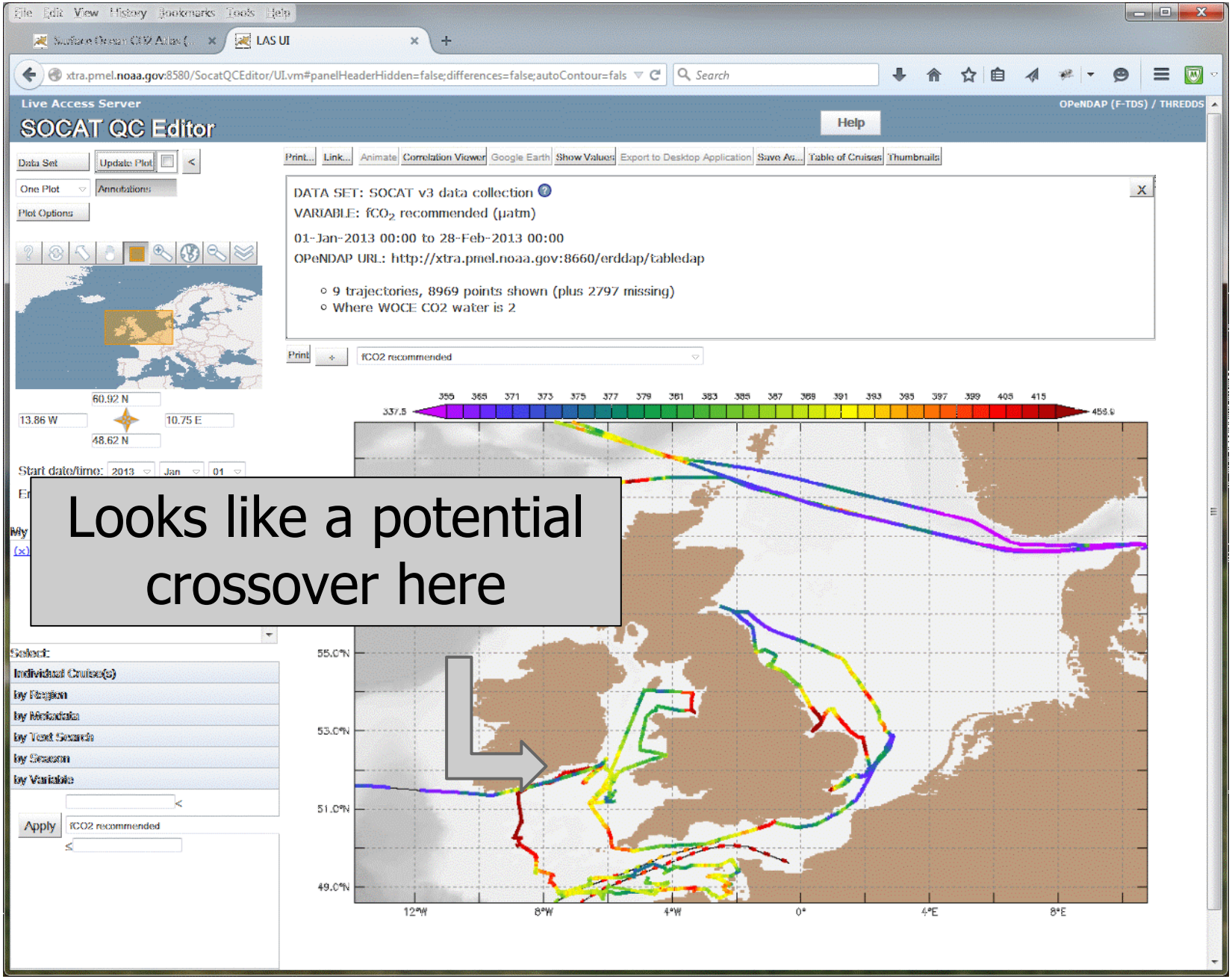
One Plot
Annotations
Plot Options
Print...
Link...
Animate
Correlation Viewer
Google Earth
Show Values
Export to Desktop Application
Save As...
Table of Cruises
Thumbnails
DATA SET: SOCAT v3 data collection
VARIABLE: fCO2 recommended (µatm)
01-Jan-2013 00:00 to 28-Feb-2013 00:00
OPeNDAP URL: http://xtra.pmel.noaa.gov:8660/erddap/tabledap
• 2 trajectories, 5097 points shown
• Where WOCE CO2 water is 2
• Where qc flag is N
Here are two distinct cruises from early 2013
60.92 N
13.16 W
10.75 E
48.62 N
Start date/time: 2013 Jan 01
End date/time: 2013 Feb 28
My selections:
(x) WOCE_CO2_water = 2
(x) qc_flag = New (N)
Select:
Individual Cruise(s)
by Region
by Metadata
by Text Search
by Season
by Variable
Apply
fCO2 recommended
by Valid Data
360 370 377 379 381
361.1
59.0°N
57.0°N
55.0°N
53.0°N
51.0°N
49.0°N
12°W
8°W
4°W
0°
4°E
8°E

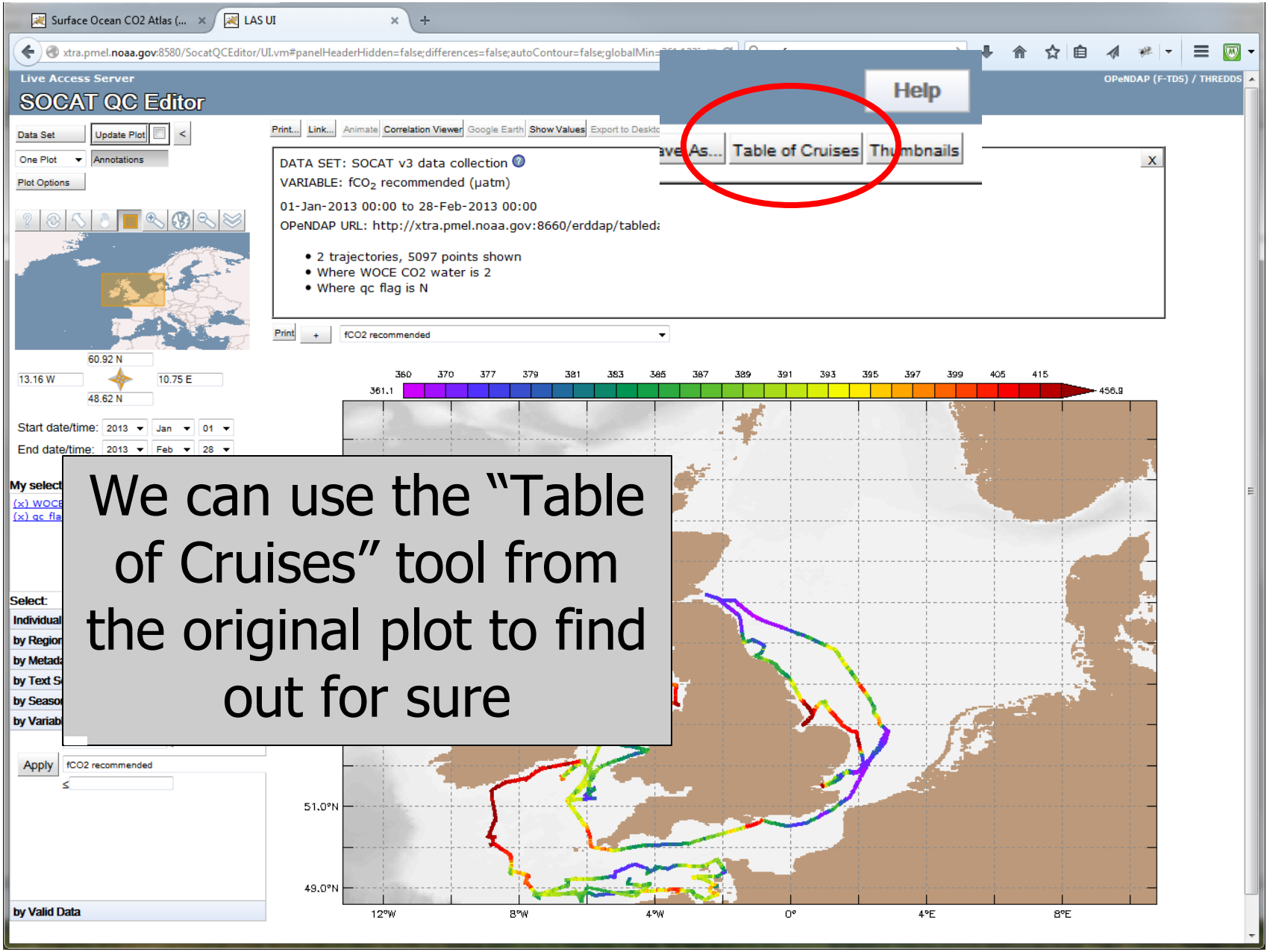


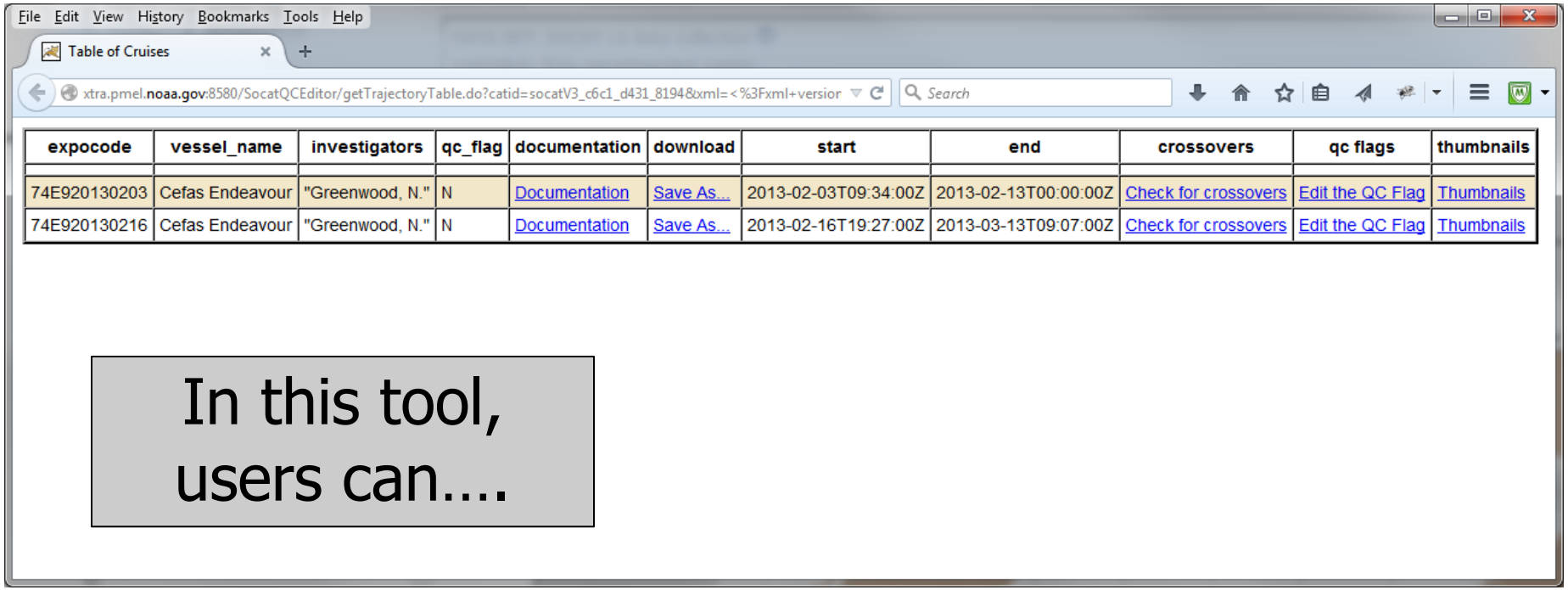
LAS provides other tools to examine the cruises a well.


Surface Ocean CO2 Atlas (...
LAS UI
xtra.pmel.noaa.gov:8580/SocatQCEditor/UI.vm#panelHeaderHidden=false;differences=false;autoContour=false;globalMin=361.133
esgf
Live Access Server
SOCAT QC Editor
OPeNDAP (F-TDS) / THREDDS
Help
Data Set
Update Plot
One Plot
Annotations
Plot Options
Print...
Link...
Animate
Correlation Viewer
Google Earth
Show Values
Export to Desktop Application
Save As...
Table of Cruises
Thumbnails
DATA SET: SOCAT v3 data collection
In order for a cruise to receive a high quality "grade," crossover values from other cruises must be identified
13.16 W
Start date/
End date/t
My selectio
(x) WOCE
(x) qc_flag
Select:
Individual Cruise(s)
by Region
by Metadata
by Text Search
by Season
by Variable
Apply
fCO2 recommended
by Valid Data
391
393
395
397
399
405
415
456.9
57.0°N
55.0°N
53.0°N
51.0°N
49.0°N
12°W
8°W
4°W
0°
4°E
8°E


LAS UI
xtra.pmel.noaa.gov:8580/SocatQCEditor/UI.vm#panelHeaderHidden=false;differences=false;autoContour=fals
Live Access Server
SOCAT QC Editor
OPeNDAP (F-TDS) / THREDDS
Help
Data Set
Update Plot
One Plot
Annotations
Plot Options
Print...
Link...
Animate
Correlation Viewer
Google Earth
Show Values
Export to Desktop Application
Save As...
Table of Cruises
Thumbnails
DATA SET: SOCAT v3 data collection
Here, we look at ALL cruises from this particular space/time region.
13.86 W
Start date
End date
My selections:
(x) WOCE_CO2_water = 2
Select:
Individual Cruise(s)
by Region
by Metadata
by Text Search
by Season
by Variable
Apply
fCO2 recommended
383 385 387 389 391 393 395 397 399 405 415
458.9
57.0°N
55.0°N
53.0°N
51.0°N
49.0°N
12°W
8°W
4°W
0°
4°E
8°E

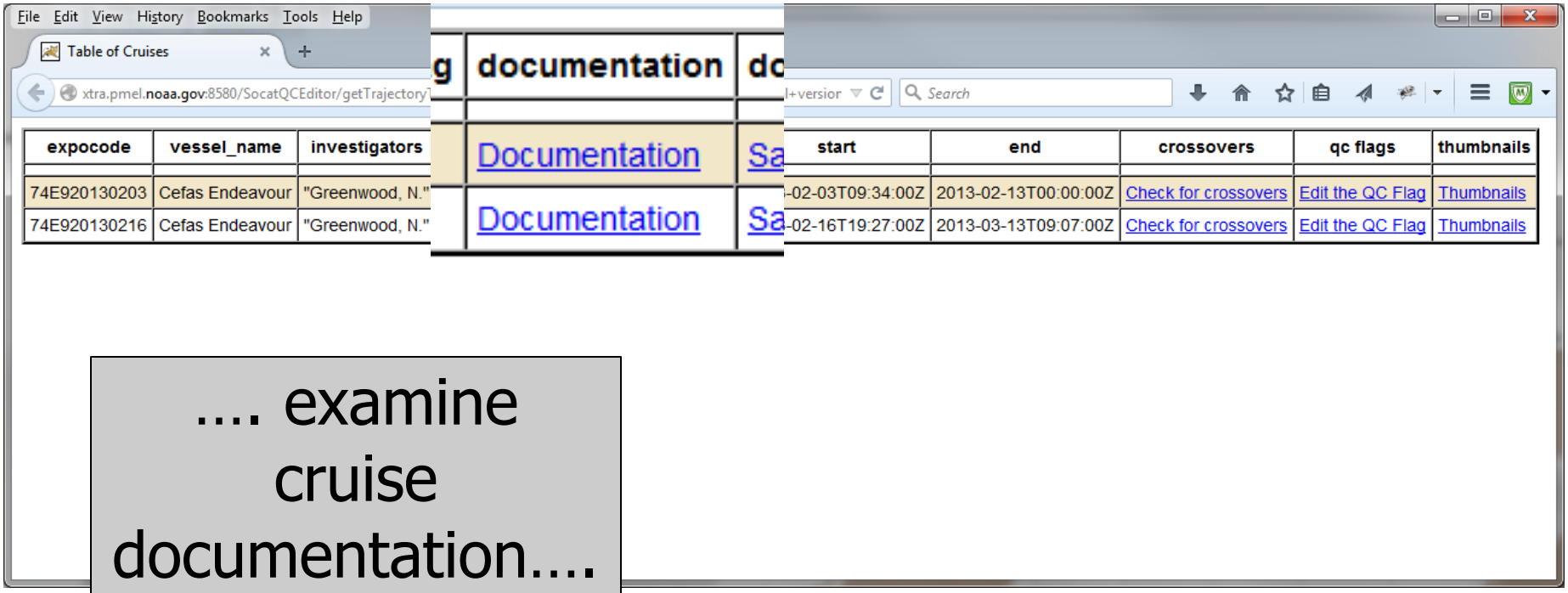

Live Access Server
SOCAT QC Editor
OPeNDAP (F-TDS) / THREDDS
Help
Data Set
Update Plot
One Plot
Annotations
Plot Options
Print...
Link...
Animate
Correlation Viewer
Google Earth
Show Values
Export to Desktop Application
Save As...
Table of Cruises
Thumbnails
DATA SET: SOCAT v3 data collection
VARIABLE: fCO2 recommended (µatm)
01-Jan-2013 00:00 to 28-Feb-2013 00:00
OPeNDAP URL: http://xtra.pmel.noaa.gov:8660/erddap/tabledap
9 trajectories, 8969 points shown (plus 2797 missing)
Where WOCE CO2 water is 2
Print
fCO2 recommended
60.92 N
13.86 W
10.75 E
48.62 N
Start date/time:
2013
Jan
01
Looks like a potential crossover here
Select:
Individual Cruise(s)
by Region
by Metadata
by Text Search
by Season
by Variable
Apply
fCO2 recommended
55.0°N
53.0°N
51.0°N
49.0°N
12°W
8°W
4°W
0°
4°E
8°E


Surface Ocean CO2 Atlas (...
LAS UI
Live Access Server
SOCAT QC Editor
OPeNDAP (F-TDS) / THREDDS
Help
Table of Cruises
Thumbnails
DATA SET: SOCAT v3 data collection
VARIABLE: fCO2 recommended (µatm)
01-Jan-2013 00:00 to 28-Feb-2013 00:00
OPeNDAP URL: http://xtra.pmel.noaa.gov:8660/erddap/tabled
• 2 trajectories, 5097 points shown
• Where WOCE CO2 water is 2
• Where qc flag is N
Start date/time: 2013 Jan 01
End date/time: 2013 Feb 28
Apply
fCO2 recommended
by Valid Data
We can use the "Table of Cruises" tool from the original plot to find out for sure
51.0°N
49.0°N
12°W
8°W
4°W
0°
4°E
8°E

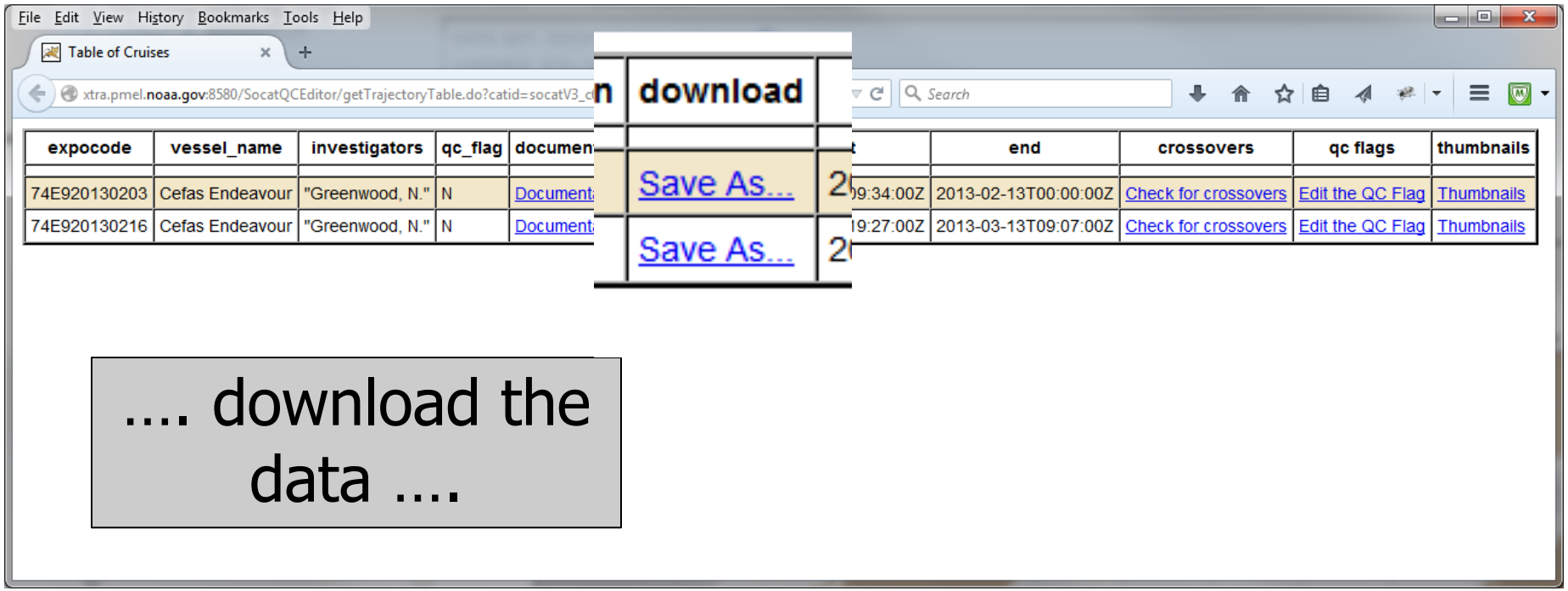


expocode	vessel_name	investigators	qc_flag	documentation	download	start	end	crossovers	qc flags	thumbnails
74E920130203	Cefas Endeavour	"Greenwood, N."	N	Documentation	Save As...	2013-02-03T09:34:00Z	2013-02-13T00:00:00Z	Check for crossovers	Edit the QC Flag	Thumbnails
74E920130216	Cefas Endeavour	"Greenwood, N."	N	Documentation	Save As...	2013-02-16T19:27:00Z	2013-03-13T09:07:00Z	Check for crossovers	Edit the QC Flag	Thumbnails

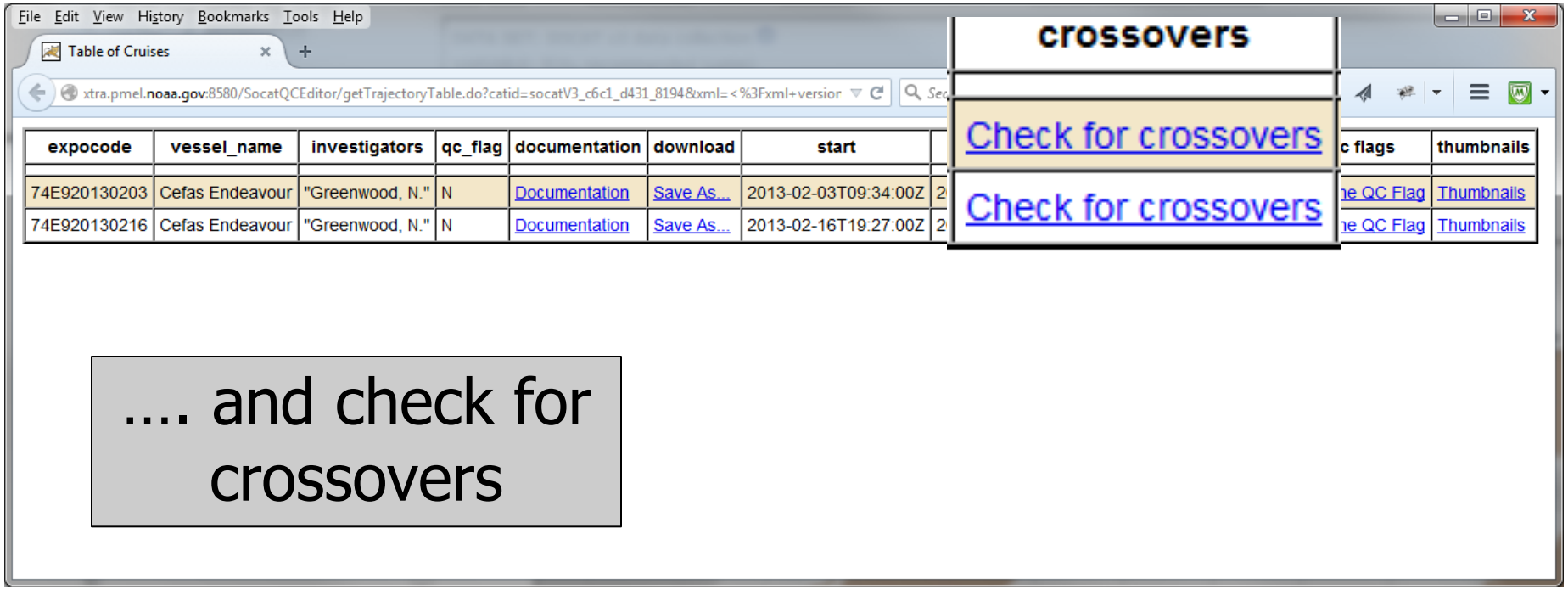
In this tool, users can....



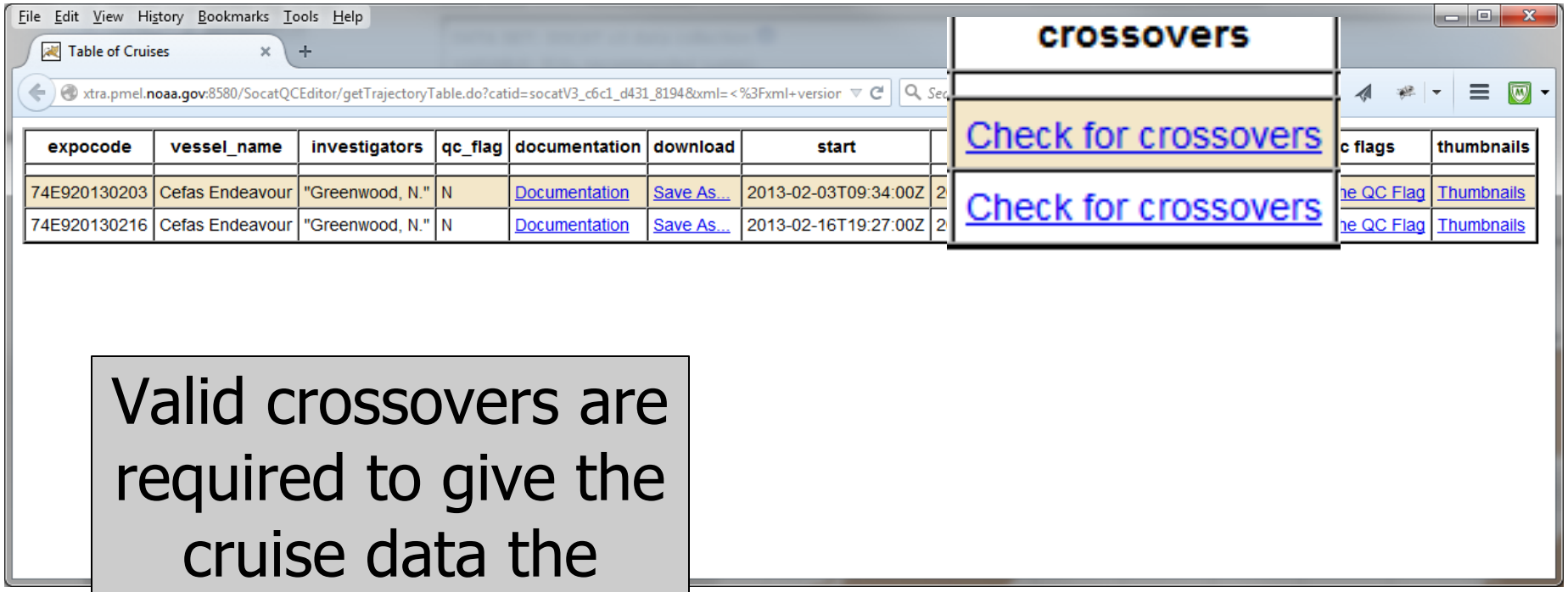
.... examine cruise documentation....



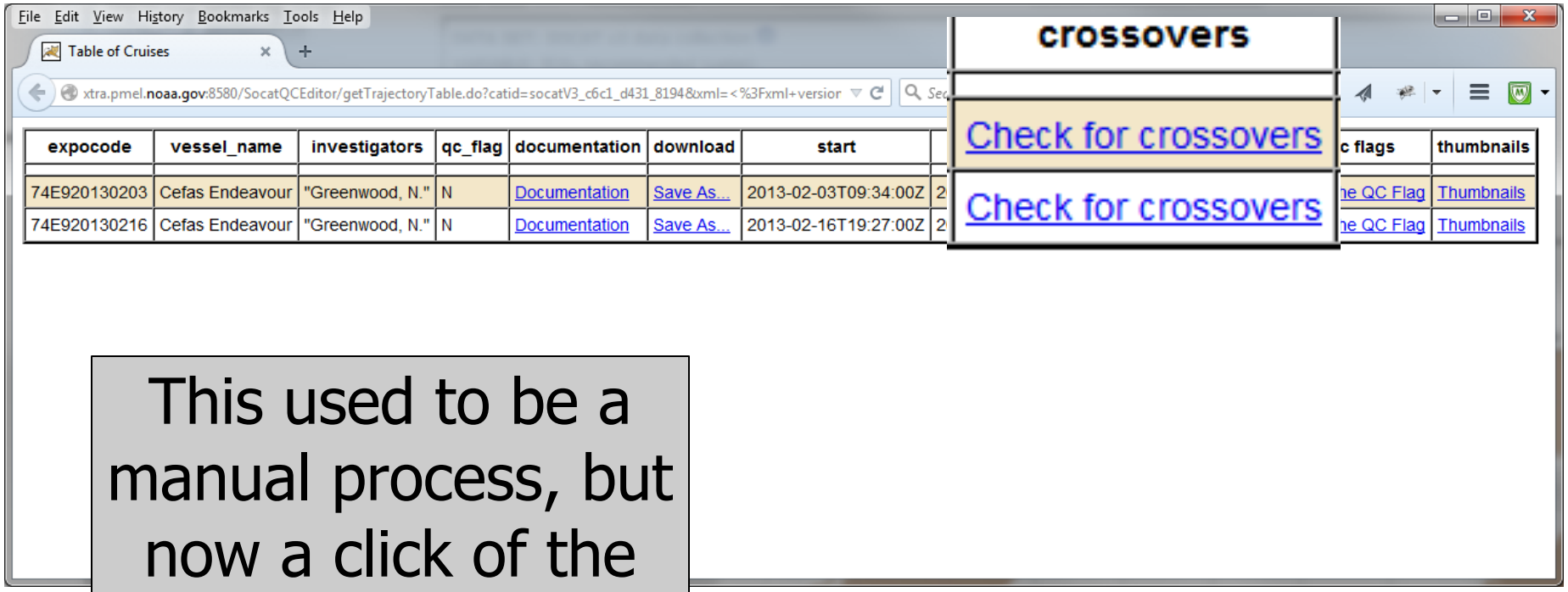
.... download the data ....



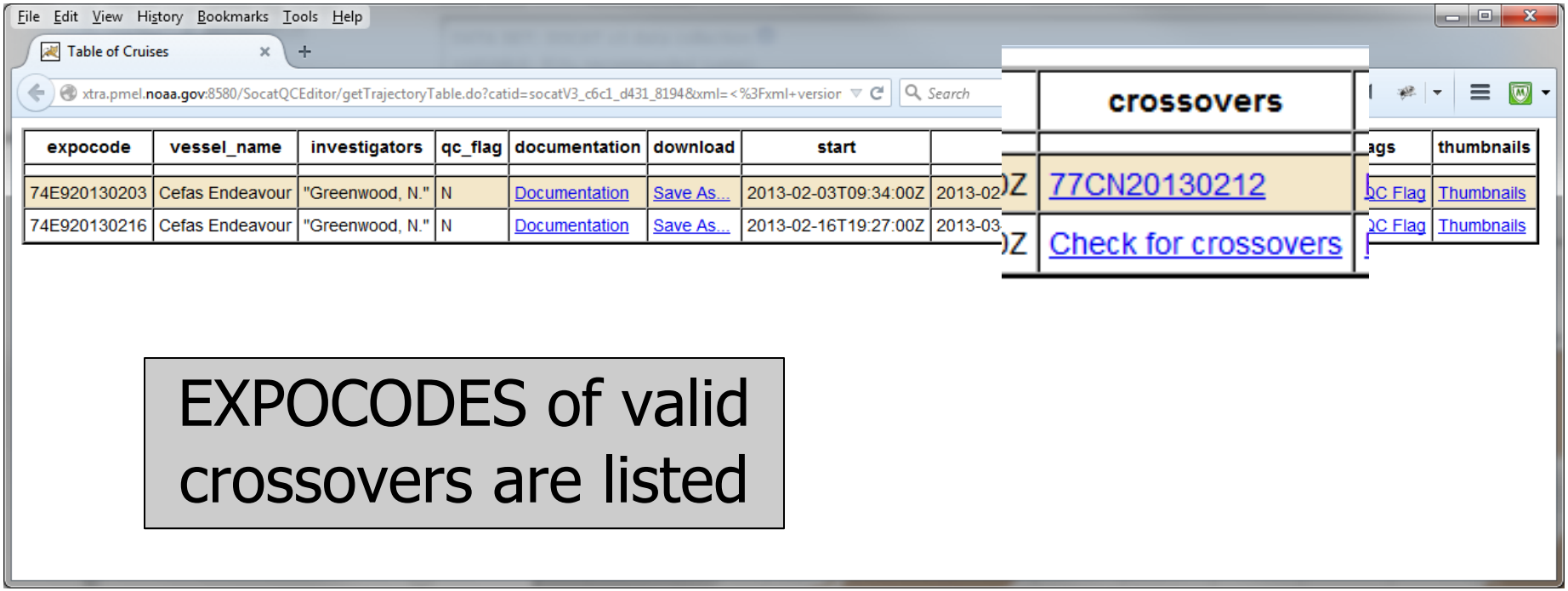
.... and check for crossovers

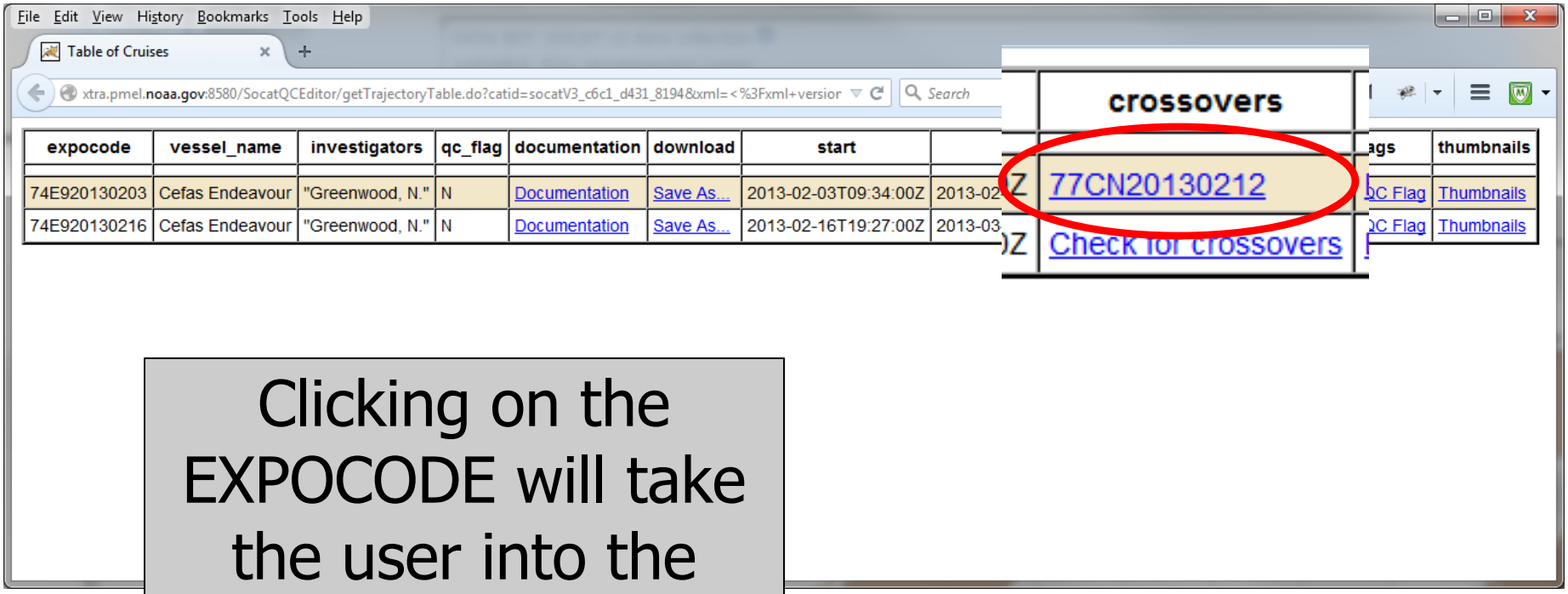


Valid crossovers are required to give the cruise data the highest "grade" possible

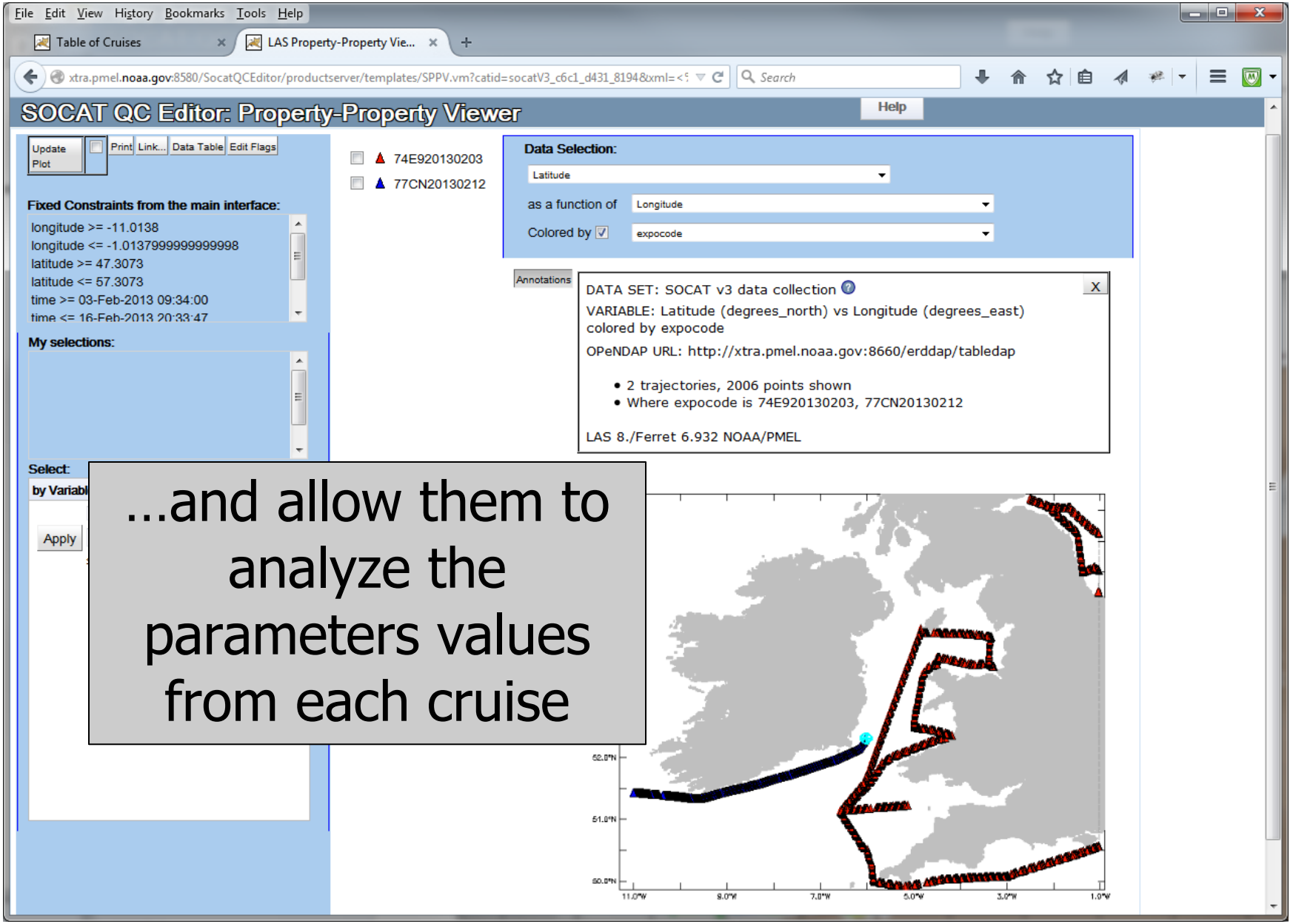


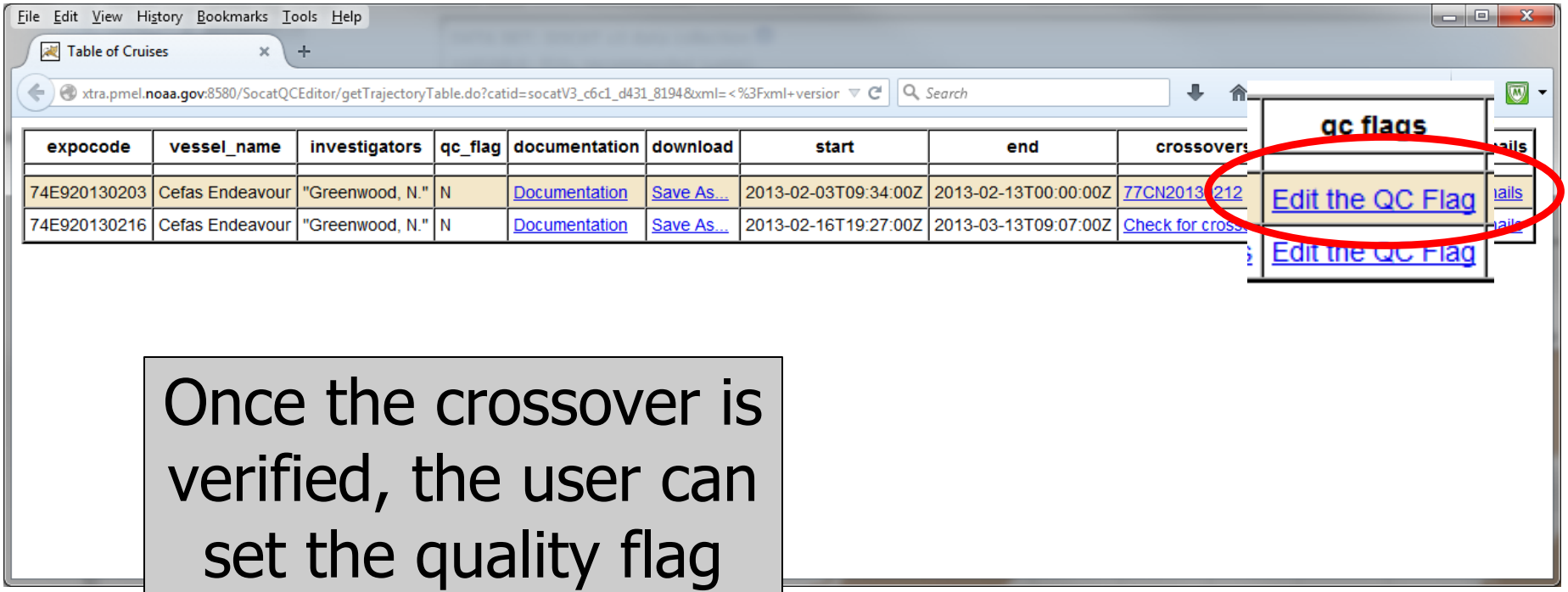
This used to be a manual process, but now a click of the mouse will check automatically


File Edit View History Bookmarks Tools Help
Table of Cruises
xtra.pmel.noaa.gov:8580/SocatQCEditor/getTrajectoryTable.do?catid=socatV3_c6c1_d431_8194&xml=<%3Fxml+versior
Search
expocode
vessel_name
investigators
qc_flag
documentation
download
start
74E920130203
Cefas Endeavour
"Greenwood, N."
N
Documentation
Save As...
2013-02-03T09:34:00Z
74E920130216
Cefas Endeavour
"Greenwood, N."
N
Documentation
Save As...
2013-02-16T19:27:00Z
crossovers
77CN20130212
Check for crossovers
thumbnails
Thumbnails
Thumbnails
EXPOCODES of valid crossovers are listed

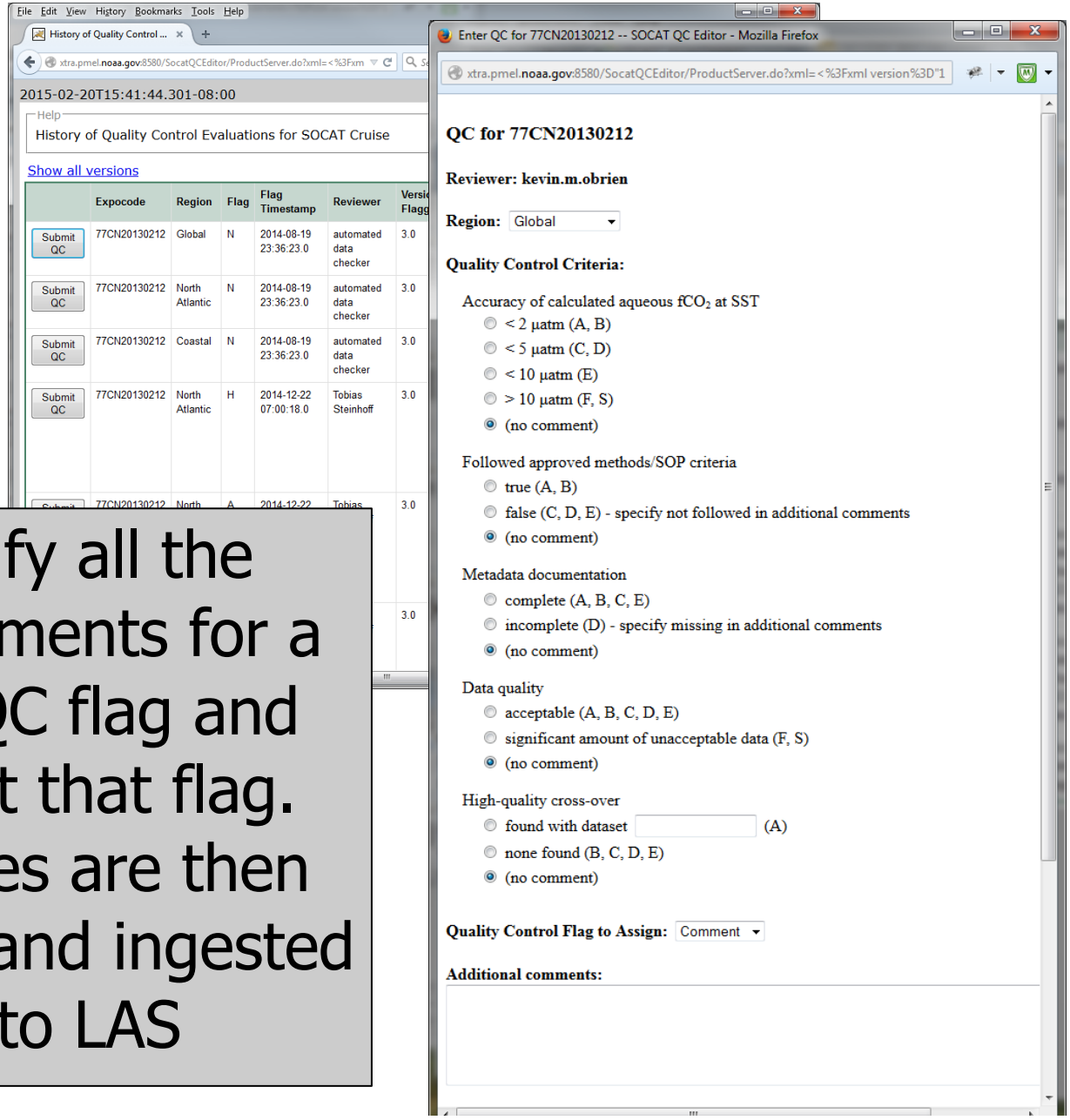


Clicking on the EXPOCODE will take the user into the correlation viewer….


File Edit View History Bookmarks Tools Help
Table of Cruises
LAS Property-Property Vie...
xtra.pmel.noaa.gov:8580/SocatQCEditor/productserver/templates/SPPV.vm?catid=socatV3_c6c1_d431_8194&xml=<
Search
SOCAT QC Editor: Property-Property Viewer
Help
Update Plot
Print
Link...
Data Table
Edit Flags
74E920130203
77CN20130212
Data Selection:
Latitude
as a function of
Longitude
Colored by
expocode
Fixed Constraints from the main interface:
longitude >= -11.0138
longitude <= -1.0137999999999998
latitude >= 47.3073
latitude <= 57.3073
time >= 03-Feb-2013 09:34:00
time <= 16-Feb-2013 20:33:47
Annotations
DATA SET: SOCAT v3 data collection
VARIABLE: Latitude (degrees_north) vs Longitude (degrees_east)
colored by expocode
OPeNDAP URL: http://xtra.pmel.noaa.gov:8660/erddap/tabledap
2 trajectories, 2006 points shown
Where expocode is 74E920130203, 77CN20130212
LAS 8./Ferret 6.932 NOAA/PMEL
My selections:
Select:
by Variabl
Apply
...and allow them to analyze the parameters values from each cruise
52.0°N
51.0°N
50.0°N
11.0°W
9.0°W
7.0°W
5.0°W
3.0°W
1.0°W



Once the crossover is verified, the user can set the quality flag for the entire cruise



Users verify all the required elements for a particular QC flag and then submit that flag. The DSG files are then regenerated and ingested back into LAS

In Summary…..

The Live Access Server SOCAT portal

- Allows scientists to work in their preferred data formats (ie, spreadsheets)
- Connects metadata and data (crucial for proper QC)
- Allows users to easily perform quality control and analysis
- Provides data in standards compliant netCDF DSG format
- Provides a path for data sharing and creation of data DOI's

Thank you!

Live Access Server: ferret.pmel.noaa.gov/LAS
SOCAT: www.socat.info
ERDDAP: coastwatch.pfel.noaa.gov/erddap